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A Consolidation of
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JANUARY 10, 1926

1875 1926

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Eureka stays on the job 'till the job is done!

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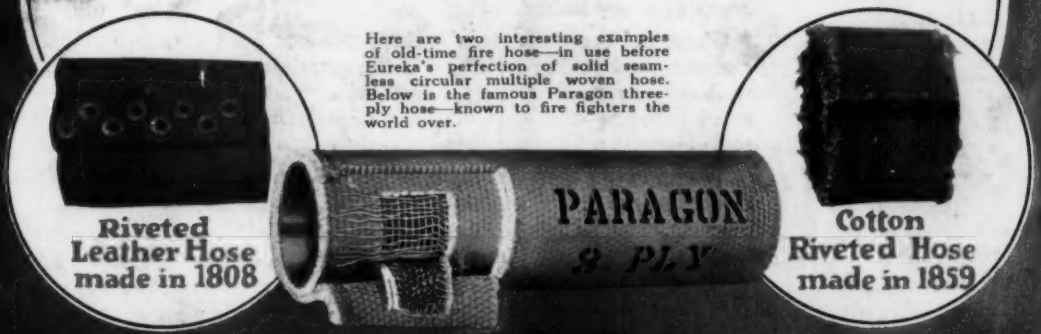

Riveted Leather Hose made in 1808

Cotton Riveted Hose made in 1859

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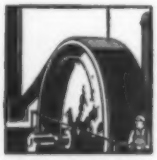
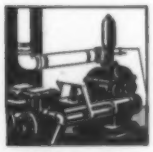


Transmission Belts



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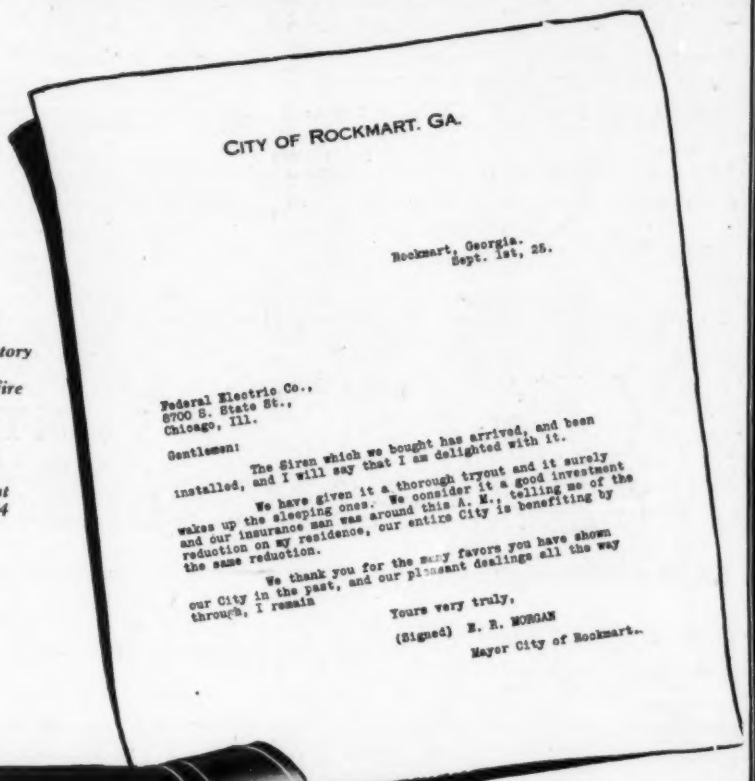
Approval dated October 11, 1918

Code control patent allowed April, 1924



CITY OF ROCKMART. GA.

Rockmart, Georgia.
Sept. 1st, 25.

Federal Electric Co.,
8700 S. State St.,
Chicago, Ill.

Gentlemen:

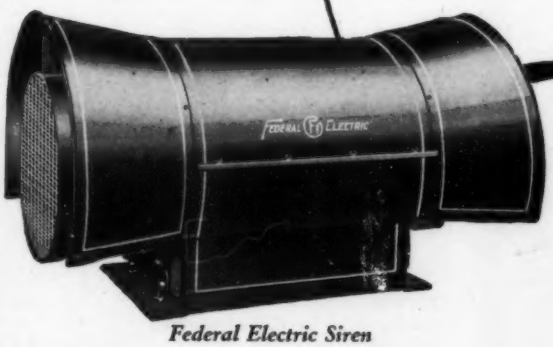
The Siren which we bought has arrived, and been installed, and I will say that I am delighted with it.

We have given it a thorough tryout and it surely wakes up the sleeping ones. We consider it a good investment and our insurance man was around this A. M., telling me of the reduction on my residence, our entire City is benefiting by the same reduction.

We thank you for the many favors you have shown our City in the past, and our pleasant dealings all the way through, I remain

Youre very truly,

(Signed) E. R. MORGAN
Mayor City of Rockmart.



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FE-1

The Journal of the Fire Protection Profession Since 1877

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING AND THE FIRE ENGINEER

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Here Comes the Bride!

STEP up, boys, and kiss the bride, a fat resounding smack on her ruby lips,—for here is one of the happiest marriages on record—the union of the former weekly FIRE AND WATER ENGINEERING and the monthly FIRE ENGINEER, forming the present semi-monthly FIRE ENGINEERING, of which this copy you now hold in your lily white hands is the first issue.

¶ We know we are going to be very happy in our newly-wedded state; and if the wealth of congratulations we have already received from our friends and well-wishers is any criterion, we have a bright future of happiness and usefulness ahead of us.

¶ Please remember that we cannot be truly successful unless we truly serve. We aim at all times to assist in the improvement of conditions and methods in the fire protection profession; and to get results we must have *you* with us.

¶ And so, to all our wedding guests, subscribers and advertisers and all those who otter be, greeting and welcome!

¶ Let's all play the game together, with the very best we have in us!

The Publishers

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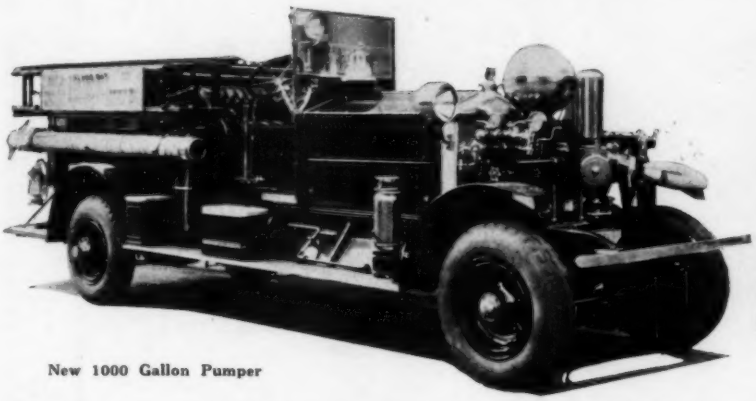
"Nothing is too good for fire service, and nothing but the best will do."

—Ahrens-Fox



New 1000 Gallon Pumper

Chief J. W. Fisher

Chief Fisher of Dubuque, Ia.

Praises His Old and New Ahrens-Fox Pumpers

City of Dubuque

Fire Department
J. W. Fisher, Chief

Dubuque, Ia., Nov. 21, 1925.

Ahrens-Fox Fire Engine Company,
Cincinnati, Ohio.
Attention: John Ahrens, V.P.

Gentlemen:-

Your wonderful pumper which was an agreeable surprise not only to myself but to the balance of our city officials, has been delivered, tested, accepted and is now in service.

The award of this contract for the pumper to your Company was largely influenced by a test made by the Underwriters held here in this city August 1st, this year, in which test your old engine easily met all the requirements of this nine pumper (four cylinder - 700 gallon). The showing made in this test was a surprise for the pump had the original valves and springs in some when the engine was delivered about nine years ago and during which time your old apparatus did establish a splendid record for itself.

We are all very much pleased with our new Ahrens-Fox 1000 gallon pumper and still take pleasure in recommending same at any time to prospective purchasers.

Wishing you continued success, remain,

Yours very truly,

Chief Fire Dep't.

Read for yourself from the reproduced letter at the side just what Chief Fisher with his years of practical fire department experience has to say about his own Ahrens-Fox pumpers and of Ahrens-Fox apparatus in general.

In the Underwriters' tests and in additional ones requested by city officials, the new 1000 gallon pumper came through with a splendid record, so that City Manager C. C. Douglas, Chief J. W. Fisher as his letter proves, and other municipal officials interested in fire protection, are more than pleased with their new pumper.

This high endorsement of Ahrens-Fox apparatus is significant, but not unusual, because fire officials everywhere are fast realizing that modern fire service is so exacting and strenuous that only Ahrens-Fox specially designed and built apparatus of the highest possible quality can hope to prove equal to demands and dependable at all times.

We are always glad to explain the important features of Ahrens-Fox apparatus to city officials without placing them under any obligation whatever—so be sure to get in touch with us before deciding upon new equipment.

Send for Fire Apparatus Bulletins with Complete Information

The Ahrens-Fox Fire Engine Co.

"Builders of Quality Fire Apparatus"

Cincinnati, Ohio

Eastern Representative
J. A. PRESCOTT
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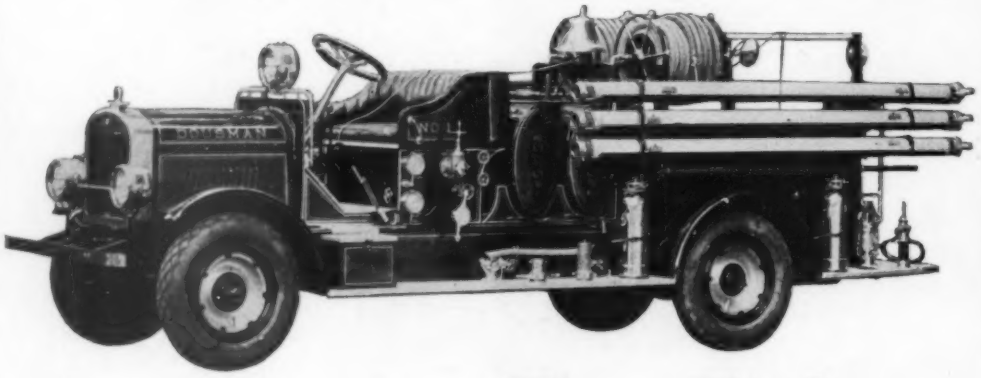
The STOUGHTON



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is Designed Especially for Small Towns

A new, illustrated, two color, bulletin with complete specifications will be mailed on request.

Fire apparatus for volunteer and small town fire departments must be designed, built and equipped to meet **particular** requirements. To provide **adequate** protection it must be a **combination** of several distinct types built for city use. It must be **complete** in every detail.

Stoughton engineers have realized these facts from the beginning and have worked accordingly. The Stoughton is the original Community Fire Fighter for Small Towns and surrounding communities—and present models embody all the features so important to provide this type of fire protection.

You can get the **Stoughton** in three sizes,—300—350 and 500 gallon capacities. Each model and every piece of apparatus guaranteed to pass the National Board of Fire Underwriters' twelve-hour pumping tests.

The **Stoughton** Community Fire Fighter is ideal for small town and community fire service.

May We Send Complete Information?

STOUGHTON WAGON COMPANY

FIRE EQUIPMENT DIVISION

STOUGHTON, WISCONSIN

STOUGHTON FIRE APPARATUS CO.,
250 W. 57th St., New York City
Eastern Representatives

All of Your Present Pumpers Can Now be Foam Pumpers

—a notable innovation possible only with

AMDYCO

FOAM POWDER

used with the new AMDYCO

FOAM GENERATOR

Here's a real practical solution of your worst problem today —fighting oil, gasoline and chemical fires. Numerous tests, conducted under the auspices of leading fire protection authorities, have overwhelmingly proven AMDYCO superiority.

We'll gladly send you the facts about these tests, together with full descriptive literature covering the AMDYCO method

Better Foam in Better Form

AMDYCO CORPORATION

100 E. 42nd St., NEW YORK CITY

$500.00 Firemen's Relief Contest

Class 1
$250.00 Prize

For best news clipping or official report of a fire where the use of the Fire Alarm Telegraph System saved life or property.

Class 2
$250.00 Prize

For best news clipping or official report of a fire where a delayed alarm could have been prevented by the prompt use of the Fire Alarm Telegraph System.

Facts—actual experiences—are the only basis on which anyone can judge the value of the fire alarm. The men who are closely connected with fire alarm and fire department work know the value of fire alarm because their knowledge is based on facts—on actual experiences. The men who are not directly connected with fire alarm sometimes do not appreciate its importance because they have not had an intimate knowledge of the conditions which arise in actual service.

Facts—actual experiences—are obviously needed if city officials are to get a true knowledge of the importance of fire alarm. There are plenty of these facts—plenty of these actual experiences—but the difficulty is to have a record of them when they are needed. These situations occur. The Fire Department knows of them, but when some outside official asks for specific cases they are not readily available.

A Gillette Safety Razor for each Actual Experience

A Gillette Razor will be given to everyone who sends in a story which can be used, whether or not the item is awarded a prize. Accounts of such fires may be mailed to: Firemen's Relief Contest, The Gamewell Company, Newton Upper Falls, Mass.

To assist in gathering together these cases so that they will be available, The Gamewell Company is offering the two prizes of $250.00 each announced above.

These prizes shall be paid to the Firemen's Relief Association in the city where the incidents occur. When the fire alarm system is under the jurisdiction of the chief he shall designate the Association which is to receive the prize. Where the fire alarm system is under the jurisdiction of a separate department the Head of the Fire Alarm Bureau shall designate the Association.

An incident for either class may be entered in the form of a newspaper clipping or an official report. The winners shall be selected by a Committee consisting of Mr. I. Herbert Case of FIRE ENGINEERING, Mr. Fred Shepperd, for years Editor of FIRE ENGINEER, and a representative of The Gamewell Company. The reports shall be exhibited at the Convention of the International Association of Municipal Electricians and the International Association of Fire Engineers, and the winners shall be announced at the Conventions. Incidents to be considered shall occur between November 1, 1925, and September 1, 1926. The contest closes September 20, 1926. If two or more reports are submitted for the same fire the Committee shall determine which is the most valuable, based on the promptness with which the information is sent in and the completeness of the information.

A bulletin outlining typical incidents together with full details on the Contest will be sent to you on request.

THE GAMEWELL COMPANY
Newton Upper Falls, Mass.
"A BOX A BLOCK"

FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Leading Journal of the Fire Protection Profession

VOLUME LXXIX JANUARY 10, 1926 NUMBER 1

Essentials in Handling Large Oil Fires

What Causes "Boil-Over"—Determining Accurately When It Will Occur—"Heat-Wave" Progress Shown by Sensitive Paint Stripe

By M. B. ANFENGER, Engineering Department,
Standard Oil Company of California *

THIS paper is the result of careful study and research into the origin, peculiarities and methods of fighting fires in oil tanks. It is full of practical suggestions for the fire chief who has this problem to wrestle with:

Large oil fires have always been the cause of great anxiety to fire chiefs. This has probably been largely due to the fact

Fig. 1. Model Apparatus for Determining What Goes on Inside Burning Tank Full of Oil.

that, until recently, we have had quite limited knowledge regarding the behavior of these fires. At first it appears surprising that more knowledge has not been available on oil fires, but, strange as it may seem, oil tank fires are of such infrequent occurrence that very few men have witnessed many of them. Probably a majority of fire chiefs have not seen a really large oil fire, and even those chiefs who are located in the oil industry centers, have seen comparatively few.

On account of this infrequent, scattered occurrence of oil fires it was difficult for any one man to get enough experience to teach him much about them. Several years ago the company with which I am connected started a systematic effort to collect information regarding oil fires. We studied all available fire records, and for the past few years I have personally witnessed, or investigated on the ground, every large oil fire which has occurred on the Pacific Coast. But even this effort left us still in the dark regarding the reasons for many things that we observed in connection with these fires. And so about a year and a half ago we undertook an extensive series of tests with a view to clearing up some of these questions. The results of these tests have contributed so much to our knowledge of the subject that I am going to write briefly about several of them.

Uncertainty as to Boil-over and When It Will Occur

Probably the element of greatest uncertainty in connection with oil tank fires that have occurred in the past has been the question of whether the burning tank would boil over, and, if so, when this would occur. Available records of tank fires seemed to be entirely conflicting on this point and so we set up the model apparatus, shown in Fig. 1. In this we provide means for determining just what goes on inside a burning tank full of oil. The tubes (sample draws) tapped into the tank at different elevations and terminating on this side of the wall enabled us to draw off samples of the oil at various stages of the fire for laboratory analysis. An electrical instrument is also shown for reading temperatures indicated by thermocouples—which are really electrical thermometers—that we have placed at various points inside the tank. Fig. 2 illustrates the equipment diagrammatically (thermocouples, sample drawoffs, gauge well, etc.).

All told we burned more than 100 test fires in tanks equipped with test apparatus as shown; and in sizes ranging from 110 gallon drums shown in the first picture to a 15' x 5' tank containing about 6,600 gallons.

The Cause of the Boil-over

Fig. 3 shows that we obtain typical boil-over conditions with out test apparatus. This is a fire in crude oil, the picture being taken at the moment of the boil-over.

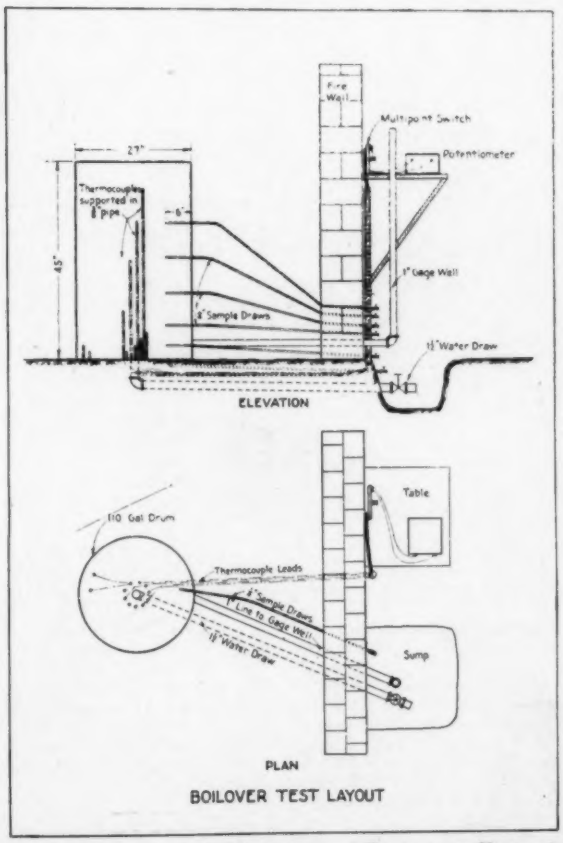


Fig. 2. Diagrammatic Illustration of Equipment Shown in Fig. 1.

* From a paper read before the annual convention of the Pacific Coast Association of Fire Chiefs.

Conditions Necessary to Cause Boil-over

The hundred or more test fires that we burned showed very definitely that a boil-over is caused by water in the oil becoming heated above its boiling point, and three conditions are necessary if a boil-over is to occur from a burning tank (see Fig. 4). The first is of course that there must be some water present. A dry oil with no water in the bottom of the tank will not boil over. The second is that the oil must be of such a nature that what we have called a "heat wave" will carry heat down well ahead of the burning surface and turn the water in the bottom into steam. The third necessary condition is that the oil must

Fig. 3. Fire in 15-foot Tank Containing Crude Oil, Taken At the Moment of the Boil-over, Showing How Typical Boil-over Conditions Are Obtained with Test Apparatus.

be sufficiently viscuous so that the steam rising through it will form a lot of foam..

All three of the conditions that I have mentioned—water, a heat wave, and viscosity—are practically always found in crude oils; but never, so far as we know, in refined oils.

Heat Wave Most Interesting of Conditions

The matter of the heat wave is perhaps the most interesting of these conditions (see Fig. 5). The heat is not conducted or

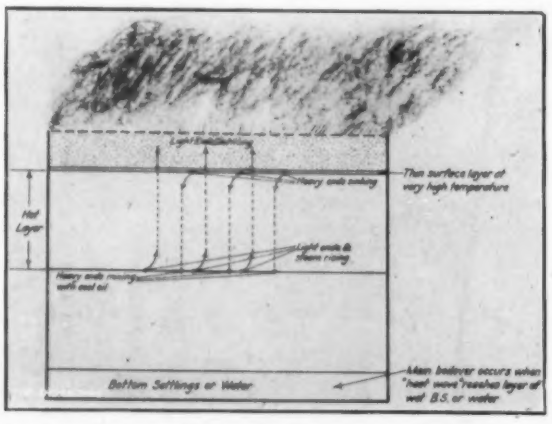


Fig. 5. Diagram Showing Action of the Heat Wave in Oil Tank.

radiated down through the oil, but must be actually conveyed down by the hot oil when its specific gravity becomes great enough to cause it to gradually sink. A wave will form only if the oil contains a wide range of boiling points so that, as the light volatile fractions burn out of the top layer, there will be heavy portions left which will sink into the cool oil below carrying a lot of heat down with them.

The curves in Fig. 6 represent a graphical record of what went on inside of the oil tank during a typical test. The temperatures are shown vertically, and the time, in hours, shown horizontally. Each curve is the temperature record of the thermocouple with the corresponding number, the numbering being from the top of the tank downward. It will be noted that the top thermocouple was quickly raised to a high temperature, while the lower thermocouples showed no temperature change. After a little over a half an hour the heat wave reached the second thermocouple, which jumped to the temperature of the heat wave. Finally the heat wave reached the water in the bottom of the tank and, there being a viscuos oil present, a boil-over occurred.

Apparent Inconsistencies in Records of Oil Fires Cleared

The information that we obtained from these tests cleared up the apparent inconsistencies in the records of past fires. It explained why boil-overs had never occurred from refined oil tanks, and why they should not be expected to occur. As our tests had shown widely different rates at which the heat wave traveled down through different kinds and gravities of crude oil, we also had a clue as to why some boil-overs had occurred within perhaps four or five hours after the fire had started, whereas others did not take place until the tank had burned for as much as twenty-four hours.

Predicts Boil-over With Accuracy

This information enabled us to predict with considerable accuracy when a boil-over would occur in a recent crude oil reservoir fire in Bakersfield, Cal. This reservoir contained when fired about six feet of heavy oil. Our records indicated that, in such oil, a heat wave might be expected to travel about one foot an hour. The fire started at 5:30 in the evening; and so we advised our superintendent in charge of operations at the scene that a boil-over might be expected around 11:30. He used all available men for throwing up emergency fire wall protection until 11:15, at which time he ordered all men back to positions

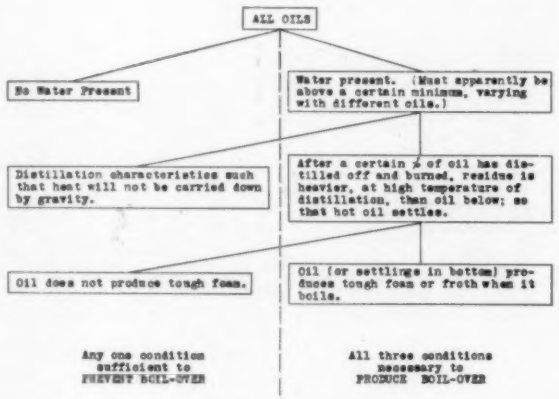

ALL OILS
No Water Present
Water present. (Must apparently be above a certain minimum, varying with different oils.)
Distillation characteristics such that heat will not be carried down by gravity.
After a certain % of oil has distilled off and burned, residue is heavier, at high temperature of distillation, than oil below; so that hot oil settles.
Oil does not produce tough foam.
Oil (or settlings in bottom) produces tough foam or froth when it boils.
Any one condition sufficient to PREVENT BOIL-OVER
All three conditions necessary to PRODUCE BOIL-OVER

Fig. 4. What Will Prevent and What Will Produce Boil-over, Shown Diagrammatically.

of safety. The field around the reservoir was completely cleared before 11:30; and at 11:40 the boil-over occurred.

While we were thus able to make a quite accurate and useful prediction in the case of this heavy oil fire out test reports, and also the records of actual fires in lighter crude oils are not quite so consistent—the rate of heat wave travel in these oils ranging all the way from eighteen inches to over three feet per hour. Hence, in an effort to get some more accurate means of predicting when a boil-over might be expected from a light crude fire, we developed in the course of our tests a means of observing the advance of a heat wave on a tank by painting on the outside of the shell of this tank a stripe of paint made from a special pigment that changes color when its temperature is raised above 150 degrees. Fig. 7 shows the sharp front made by the heat wave. In this case there was some oil spilled on the outside of the tank which had been volatized where heated above the line of the "heat wave" front, but which had remained below this line.

Follow Progess of Heat Wave by Stripe of Special Paint

In the early stages of a tank fire it is generally possible to approach the windward side of the tank without discomfort. Hence when a fire starts in a tank containing crude or fuel oil we plan to apply a stripe of our temperature indicator paint by sending up to the tank a couple of men equipped with a brush on a long extension handle with which they can paint a stripe from somewhere near the top down to the ground. Then by watching the

(*Continued on page 37*)

Ventilate and Cover Exposures to Hold Fire

Suggested Method of Holding Fire Described in the December Issue of "The Fire Engineer"—Ventilating and Covering Exposures Most Effective Means

FOR the benefit of those readers of FIRE ENGINEERING who did not see the description of how this particular fire was fought, as described in The FIRE ENGINEER, the following facts regarding it are again given.

Fig. 1 herewith shows the layout of the building before the fire.

The fire was discovered by tenants in the apartment on the floor above the bicycle shop about 11:30 p. m. They awoke to find smoke coming through the doorway from the air shaft and upon investigation found the stairway fully ablaze and the stair shaft filled with smoke. At this time a severe snow storm was in progress which probably accounted for the fact that nobody on the street had seen the fire.

The tenants called for help from the windows and a passerby pulled a box.

Upon the arrival of the department (first alarm) the ground floor and basement of the bicycle shop were fully involved.

The captain who arrived first immediately had ladders placed to the second floor windows and assisted the occupants of the apartment to the street.

Hardly had the rescues been made when the assistant chief but before the apparatus of this alarm could arrive the roof of the entire row of buildings was ablaze.

Through failure to cover exposures fire communicated to the department store alongside of the shoe repairing shop and this building was finally involved before the fire was extinguished.

A second alarm in this city at this particular fire alarm station brings two additional engine companies, one hose company as well as one additional ladder truck.

The water pressure in the mains was good at all times carrying from 75 to 85 pounds. Large size mains and plenty of hydrants were available for the operation of the department.

Fig. 2 shows the ground plan of the buildings with the surrounding streets, and also indicating the various hydrants.

Suggested Method for Handling the Fire

The suggested method for handling this fire would be as follows:

The first operation would be to save the lives of those trapped above the fire. As the ladder company pulled in about the same time as the first engine company, ladders should be raised at once to the second floor windows of the bicycle shop. If there

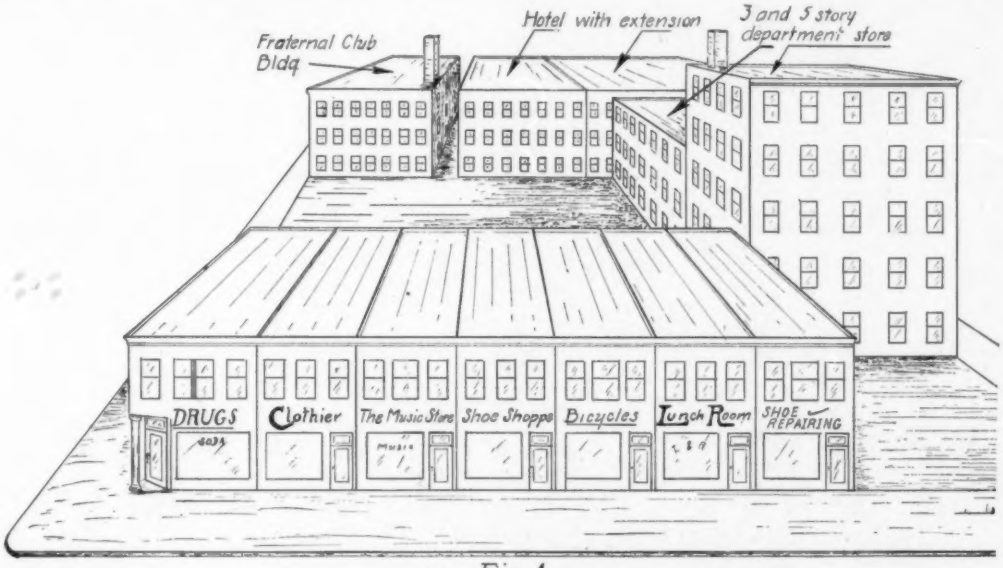


Fig. 1.

rolled in and his assignment of apparatus was as follows: Engine Co. No. 1 at hydrant No. 7 as shown in the sketch Fig. 2, and a single line stretch to the ground floor of the bicycle shop.

Engine No. 2 at hydrant No. 4 and line stretched to second floor over bicycle shop.

Hose Co. No. 4 stretched second line from Engine No. 1 at hydrant No. 7 to the bicycle shop and worked in on floor to inside stairway to basement. This line operated down into the basement and kept the fire down and at the same time making progress against it.

Ladder Co. No. 1 upon rolling in and after performing the rescue work opened the store front and rear and also opened up rear light shaft to basement and street entrance for ventilation.

After operating for about 15 minutes the fire seemed to be well under control when it was discovered that smoke was coming from the cornice over the drug store.

Shortly afterward smoke began issuing from the cornices all along the stores on both sides of the bicycle shop.

It was apparent that fire had risen to the cock loft and had spread over the entire group of buildings, including the drug store, clothing store, music store, shoe store, lunch room and cobbler shop.

At this time the assistant chief transmitted a second alarm

is any danger of the people jumping then a life net should be spread. But due to the limited occupancy of the second floor this likely would not be necessary.

If fire was coming out of first floor, line should be operated from the street front of the building to drive fire back and make rescue of occupants above possible.

While the rescue work is being performed order two men to go to roof at once and open up over the fire, preferably over the stair shaft. If there is a vent over dumb waiter shaft, this should be opened at once.

In going to the roof for this purpose the men should carry with them axe, claw tool if available, six-foot hook (for breaking plaster beneath the cock-loft. It will not be necessary to take the usual life line to the roof of these buildings because the buildings all being of the same height it will be a very simple matter for the men to escape in case of danger to buildings on either side.

By opening up the roof over the fire, the fire will be drawn up quickly through the roof to the atmosphere and thereby checked if spread through the cock loft in either direction.

As soon as this has been accomplished men should retreat to the street by the way of adjoining buildings or by way of ladders if necessary.

Assuming that streams are necessary to co-operate in saving life, Engine Co. No. 1 should be stationed at hydrant No. 7

and stretch in two lines to the bicycle shop each equipped with 1⅛-inch nozzle. Lines would operate through the front of the bicycle shop driving the fire toward the rear while rescue work is being performed; thereafter one would go to second floor by ladder if possible and advisable.

As the fire will likely travel up through the stairway and involve the second floor, if it has not already done so, and in view of the fact that there is a dumb waite: sh_ft in the building it will be necessary to cover exposures on either side of fire building.

The second engine company will therefore connect to hydrant No. 4 and stretch two lines, one to go up the stairs to top floor of shoe shop and the other to top floor of lunch room.

Each of these lines may be equipped with a shut-off nozzle, preferably of one inch or if necessary 1⅛ inch diameter.

In stretching these lines the men may be assisted by members of truck company or of hose company, but as soon as lines are in operation then the members of the hose company should retreat to stretch in hydrant lines as will be noted later.

The two lines stretched from Engine Co. No. 2 should be operated through the ceilings into the cock-loft, openings being made by members of truck company if available or otherwise by members of engine company.

The roof of the fire building being opened, the main body of the fire will drawn upward and it will be only a question of wetting down the cock-loft and killing any fire which may have gained a hold therein.

In the event that fire has passed through the cock-loft over the shoe shop or lunch room to buildings on either side, then the lines would have to be stretched up other buildings to head the fire off.

In this latter case it will be necessary to transmit an additional alarm.

But if the ventilation has been done promptly and properly there will be little likelihood of fire having extended beyond the building on either side .

The fire is burning fiercely in the basement. Therefore it will be necessary that a survey be made at once in basements of buildings on either side of fire building.

This should be done by members of truck company, members of hose company or other men available.

Make sure that fire has not extended into the basements of buildings on either side and when inspection is being made if there is danger of fire breaking through, this information should be communicated to the officer in charge at once.

Hose Co. No. 4 connect to hydrant No. 11 and stretch single line to rear of fire building, to operate in on ground floor, and

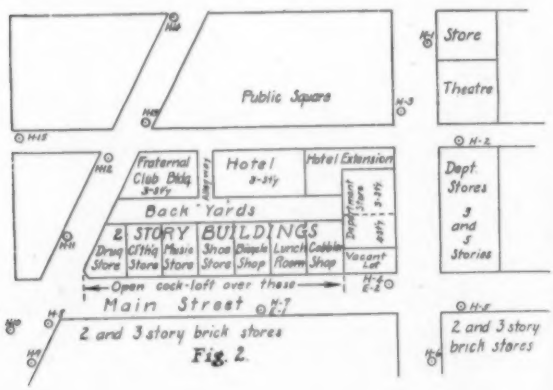


Fig. 2.

if possible to subsequently operate in on second floor by means of ladder.

With the two lines at the front of the buildings operating on ground floor, and a single line at the rear as well as having lines in operation in cock-loft on either side of fire building it is likely that the fire can be held in check.

As soon as the lines operating in on ground floor have deadened the fire then they should be worked toward entrance to basement either exterior or interior and all efforts directed toward bringing the fire under control in the basement.

It may be necessary to remove a board from the floor of the bicycle shop to provide ventilation and provide means of entering the basement.

If necessary cellar pipe should be used for operating on basement fire if the men cannot make the stairways going down to basement.

It will be noted that call was not transmitted for additional help but that the fire was handled by the first alarm assignment.

If, however, the condition of the street—snow covered at the time, checked the response of apparatus and made difficult the stretching of lines, no hesitancy should be permitted in transmitting a call at once for additional apparatus.

It is likely, however, that the fire could be handled with the first alarm assignment.

RETIRES AFTER FIFTY-FOUR YEARS ACTIVE FIRE SERVICE

Chief Jewhurst of Auburn, N. Y., Placed on Pension List—Built Up Department to Present High Efficiency

AFTER fifty-four years of active fire service in the fire department of Auburn, N. Y., forty-five of which he was chief, Chief Edward Jewhurst was placed on the pension list from January 1. An application for retirement was made two years ago, but acting on the request of the city manager, he was persuaded to remain in the service. In consideration of the service rendered, he was granted a three months' vacation, and paid his expenses for a trip to California.

Ex-Chief Edward Jewhurst, Auburn, N. Y.

Chief Jewhurst's whole life has been devoted to building up the Auburn Fire Department into one of the most efficient fire fighting organizations that any city of its size, and some a good deal bigger, can boast of. Auburn's motorized fire department, its two platoons of faithful, efficient firemen, stands today as a monument to Chief Jewhurst's greatest achievement and the fulfillment of his life's greatest ambition.

As City Manager John P. Jaeckel stated following the official announcement of the retirement, "the retirement of Chief Jewhurst is the most important that has occurred in the city in many years." The announcement was greeted with regret by his associates and workers in the fire department.

Chief Jewhurst was one of the first fire chiefs in the country to institute a school at which the firemen might study the layout of business blocks. He caused to be constructed a model of the city blocks. It was through this school showing each business block, the windows and doors in the block, and the alleys leading to and from, that many a dangerous fire was nipped in the bud and the city saved enormous fire loss. He has spent 54 of his 73 years in fighting fires. He joined the volunteer fire department in 1872. He was a printer and pressman by trade, having worked on the *Auburn Advertiser* before joining the fire department. He was also in the printing business with Frank Plum of Cortland for three years.

On March 17, 1879, Chief Jewhurst was elected assistant chief, and on August 24, 1880, he was elected chief of the volunteer fire department. In 1888 he was elected permanent chief of the department and was the first chief to be given a salary. He has been chief ever since. The department became a paid organization on January 1, 1894.

Auburn is one of the smaller cities in the country which has kept strides with larger cities, and in some cases stepped ahead of greater cities in the development of its fire department. And these advancements have been due chiefly to Chief Jewhurst's vision and foresight. The two platoon system, the motorization of the department, the tower for fire drills, the school, are some of the bigger things which Chief Jewhurst gave to Auburn.

The veteran chief was one of the first members of the International Association of Fire Engineers, and at the various state and national fire conventions he was an authority on various phases of fire fighting problems.

After announcing the chief's retirement, City Manager Jaeckel issued a statement in which he paid a glowing tribute to Chief Jewhurst, and his unblemished record of public service.

Taking the Mystery Out of Fire Apparatus Tests

Methods of Making Tests—How to Figure on Proper Hose Layouts and Calculate Results—Instruments Needed

TESTING various types of fire apparatus, it has been observed, is sometimes mystifying to fire department officials and the object of this article is to outline the proper method of performing these tests and how to make the necessary calculations. It is only by conducting tests on the apparatus at regular intervals, that any defect in the mechanical parts can be detected, and a true conception of the worth of the apparatus realized:

Tests and purchase of fire apparatus may be considered synonomous, but while fire chiefs may acquaint themselves with all the salient features of the various types of fire engines which they are considering, very few of the fire-fighting fraternity ever give a thought to an understanding of the matter of making tests of the apparatus which they will receive. They know that at their call, they can have an engineer sent from any of the underwriters' organizations, and this may in a measure be responsible for the laxity in learning the correct methods of testing pumpers.

Select a Good Site for the Test

An honest interest in the fire department by the laymen is a valuable asset for the chief. Most of the lure comes from the glamor of nickel plate, red paint, sirens and bells. And so whenever a pumper is tested there are few who have a bona fide interest in the results of an apparatus test, or can interpret the meaning of the results. For that reason, in selecting a site for a test, the best plan is to try and locate one away from the accessible part of the city. In many of the smaller towns, the test is advertised in a manner similar to the coming of a circus or a traveling minstrel show. Promptly at the specified hour, about half of the town's population will be at the appointed spot arrayed in their finery waiting to see something spectacular. No wonder then that after waiting an hour or so, they go home disappointed —there are few indeed who stay and see the test to the finish.

The novelty of pushing the crowd aside every time it is necessary to take a reading or make some hose adjustment will soon wear off, and of far greater importance is the hazard of the hose breaking loose and injuring some of the crowd.

The body of water from which the pump will draft should have a bottom that is free from mud or an abundance of foreign material which will act as an abrasive should it be sucked into the pump. The lake or creek should also be of sufficient depth to insure covering the strainer, which is attached to the end of the hard suction, to a depth so that the top of the strainer will be about two feet from the water surface and still be free of the water bottom.

Material Necessary for Test

In addition to the equipment which can be found in the average fire department, the following items are needed: a pitot which can be constructed in the city machine shop in accordance with the accompanying plan, a gage which is graduated in pounds from 0 to 200 pounds, and a counter for getting the speed of the engine or pump.

If the apparatus to be tested is of 600-gallon capacity or larger, a two way siamese will be needed. Smooth bore nozzles of 1-, 1¼-, 1½-, and either a 1⅝-, or a 1¾-inch nozzle are necessary. Whenever a 1,000-gallon pumper is tested, a 2-inch nozzle should be added.

A crow bar driven into the ground should be used to tie the nozzles so that they will not get away. Provisions should be made for a tender with gasoline to bring a supply to the test about one hour after the test has started. On the average about thirty-five gallons of gasoline are burned during the standard three hour test.

Construction of Pitot

The pitot blade consists of a brass plate of semi-circular shape with a knife edge on the straight section as shown in Fig. 3. Around the circumference is soldered a fine copper tube which projects slightly beyond the knife edge. The other end of the tube passes through a brass fitting which is cut with a standard pipe thread. The balance of the pitot can be made from pipe parts as shown in the (Fig. 4) accompanying drawing. An air chamber is put on to steady somewhat the fluctuations of the gage needle. The pitot gage is designed to read velocity pressure and contrary to popular conception is not static pressure. In itself the pitot gage readings mean nothing but must be interpreted by means of tables into gallons per minute.

The gages which are used should not have a pin to hold the needle at zero. It is only by allowing the needle to come to an absolute rest that one can tell if the gage is recording properly.

Placing the Apparatus

The apparatus to be tested should be so placed that the suction side of the pump is nearest to the body of water. If the pumper is to draft from a wooden bridge, do not place the entire weight of the machine on the frame structure—either the front or better the rear wheels should be resting on the ground.

Some of the pumpers are so equipped that the cooling water from the engine is discharged through a section of garden hose, and in others it is sent through the exhaust pipe. Should your pump be of the latter type, place a board under the exhaust. The force of the gas and water issuing from the exhaust port will, in three hours time, wear away a section of the road. Where there is a dirt road, the rear wheels should be run up on boards or other material which will enable the driving wheels to get a firm grip on the road, after the test is over and the machine is to be returned to quarters. Where this precaution is not heeded, it is not uncommon for the rear wheels to cut their way up to the hubs into the soft dirt.

Figuring on the Layout

"What layout shall I use?" Even some of the seasoned delivery men who are sent out from the factories to train novices in the handling of pumpers have a hazy idea of how this is figured. There are very few problems that are simpler. The gage reading on the pitot should not be below forty, due to the inaccuracy of the gage in low readings and for convenience, it should not read too high. Preferably, the gage needle should point in the vicinity of sixty to eighty pounds.

A copy of the discharge tables for smooth bore nozzles and a table of friction losses in fire hose may be obtained from the various fire apparatus concerns or underwriter organizations and they have been published in the numerous books on fire department subjects. Knowing the gage reading that is desired, one can

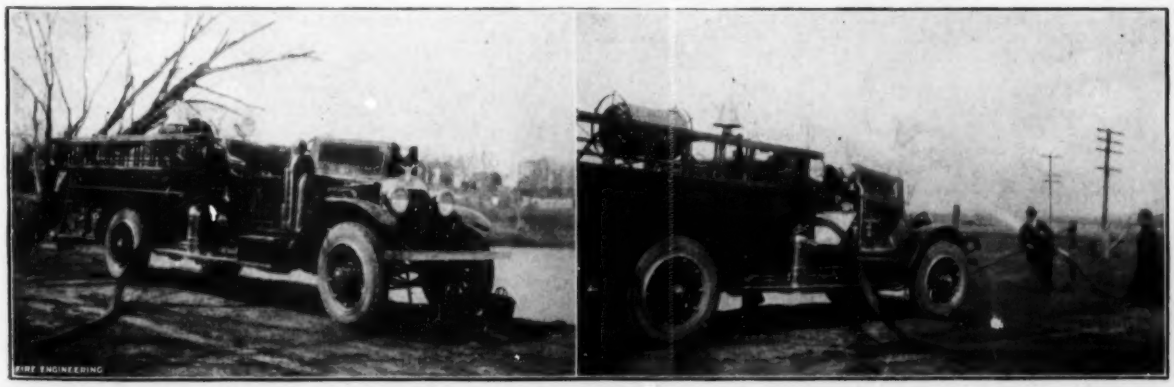


Fig. 1. (Left) Showing Pumper in Position Alongside of Pond During Test. Fig. 2. Discharge Side of Pumper with Nozzle Attached to Wire Fence in Background.

look up the discharge table and see what size nozzle should be used to get the rated discharge for the pump.

Let us assume that a 750-gallon pumper is to be tested, and that the pitot reading will be about seventy. A 1¼-inch nozzle at this reading will discharge 761 gallons per minute—this is near enough to the desired conditions and therefore a 1¼-inch smooth bore nozzle should be used.

The standard tests for new pumpers requires the discharge of the rated capacity at a pressure of 120 pounds pressure per square inch. In other words, the gage at the engine must show a certain reading which, when the figure for lift is added, will show a net pressure of 120 pounds.

The tables show that for a 1¼-inch nozzle to discharge 750-pounds, the pitot should show 68 pounds. Then subtracting 68 from 120 equals 52 pounds to be lost in friction. The next prob-

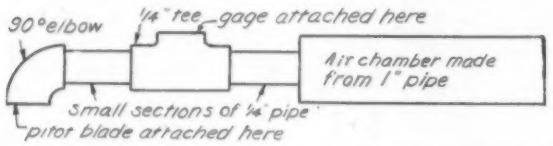


Fig. 4. Illustrating How the Pitot Can be Constructed from Parts Which Can Be Purchased from a Plumbing Supply Shop.

lem is to find the hose layout which will give the required friction loss. Were this quantity of water sent through a single line, the friction loss would be exceedingly high. For this reason, the discharge is divided into two equal parts by running one line from each side of the pumper and then connecting them a short distance from the nozzle by means of a siamese. If no siamese is used, two nozzles of the same diameter will be required, and instead of reading one nozzle, it will be necessary to pitot two nozzles.

When two lines are used, half of the discharge or capacity of the pump is sent through each line. The friction loss per 100 feet of 2½-inch cotton rubber lined hose for a flow of 375 gallons (half of 750) is 33 pounds. A line 150-feet long will give a friction loss of 49 pounds which is close enough for the problem. No layout can be computed accurately. The friction loss in smooth new hose is considerably less than the resulting loss in old hose, and on this account it may be necessary to make a few trial layouts after the calculations in order to find the suitable hose layout.

Should the pitot reading be too low and the reading at the engine too high, it is an indication that there is too much hose used. The remedy is to take out a length of hose. On the contrary if the pitot gage shows too high a reading, and the pressure reading is low, it is caused by not enough hose to build up the proper friction loss, and a length of hose should be inserted.

Sometimes in order to strike the happy medium, it may be necessary to partially close or throttle the discharge gate on the pumper. This should only be used as a last resort, as the gates have a tendency to open up during the course of the test, and the readings will fluctuate from the desired average.

Taking the Pitot Reading

The air chamber of the pitot should be grasped in one hand and the section near the blade with one finger and thumb of the other; the remaining fingers of that hand grasps the nozzle so as to steady the pitot. The blade is held parallel to the nozzle to eliminate splashing, and the end of the blade is inserted in the center of the stream and a distance away from the nozzle not less than half the diameter of the nozzle. The pitot should be held in the stream for a few seconds to allow the air chamber to fill up before the reading is taken.

Observations at the Engine

At the engine the following readings are necessary: pressure gage should be read to the nearest pound, and the speed of the pump or engine should be taken every ten minutes or whenever the readings fluctuate from the apparent average. The shaft of the counter used for taking the readings should be inserted in the countersunk place on the pump rotor; on some machines, it is more convenient to take the motor speed. Note the counter reading before the instrument is inserted in the rotor, hold the counter there for a minute and note the new reading. By subtracting the two, the revolutions per minute will be found. About five readings should be taken; readings above or below the apparent average should be discarded. It is only necessary to take this number of readings at the beginning of the test and whenever the motor speed has changed appreciably.

Recording the Readings

A record should be kept of the readings of the pump pressure, and the nozzle reading taken every five minutes, and of the motor or pump speed taken every ten minutes. A new pumper is tested for rated capacity at a pressure of 120 pounds for two continuous hours. Then it is followed by two pressure tests each of one-half hour each—one, one-half capacity at a pressure of 200 pounds and the other at one-third capacity at 250 pounds.

It will be necessary to change the hose layouts for each of the pressure tests although in some cases, the layout of the second test may be retained and the discharge gate throttled.

Calculating the Results

After the test the readings should be averaged. From the discharge tables, the pitot readings can be converted into gallons of water discharged per minute. The vertical distance of the water surface from which the pump is drafting, to the center line of the suction port of the pump will give the vertical distance in feet. A good way to get this distance is to drop a weight attached to a cord over until the weight just touches the water, and note the point where the cord reaches the center of the suction port. This distance is measured in feet. Roughly one half of the distance in feet is equivalent to the lift in pounds, and this correction for lift should be added to the pump pressure reading. Most manufacturers state their guarantees in terms of lifts not over ten feet, and for this reason it is best not to draft water from a greater distance.

Knowing the pump r.p.m., to get the engine r.p.m., multiply this figure by the gear ratio from engine to pump and vice versa. On centrifugal pumps, the engine reading is multiplied by the gear ratio to obtain the pump speed since the centrifugal pumps operate at a speed greater than that of the motor.

Calculations for Slip

It is not practical to calculate slip for centrifugal type pumps. On the other types divide the discharge in gallons by the r.p.m. of the pump. This will give the actual displacement. The manufacturers will furnish you with the theoretical or nominal displacement.

$$\frac{\text{Nom. displacement—act. displacement}}{\text{Nominal displacement}} = \%\ \text{slip}$$

Testing Old Apparatus

In testing apparatus now in service it is only necessary to test the pumpers for capacity at 100 pounds pressure for twenty

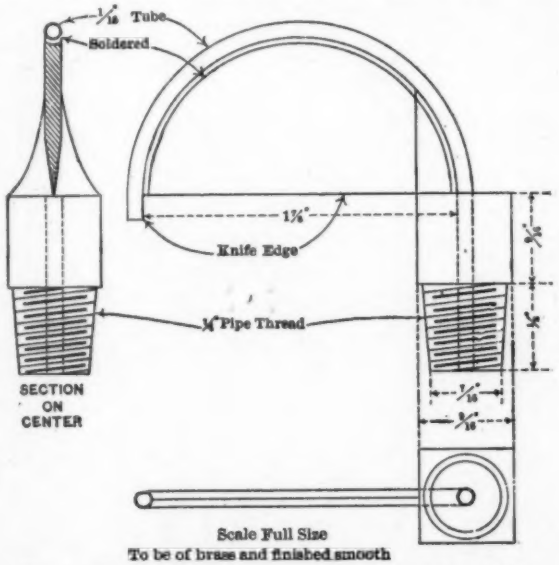


Fig. 3. Detailed Drawing of Construction of Pitot Blade.

minutes taking readings every minute, and to run the pressure tests for ten minutes.

A number of fire chiefs through the country who believe that their pumpers are in good operating conditions are surprised at the poor showings made at these tests. In one case the company officers sung the praises of their pumper which in spite of its age could, they claimed, still deliver 100 per cent of its rated capacity. The test revealed the true but sad conditions of their idol—it was exceedingly difficult to even obtain fifty per cent of its rated capacity.

The chief should test all the pumpers in his department at regular intervals so that any mechanical defect can be detected. The tests and calculations for determining the pumper's efficiency are not difficult, as was explained, and any apparatus needed is not at all costly.

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

THE WORK OF THE STATE FIRE MARSHAL

THIS second installment of the University of Illinois Course in Fire Protection is significant in that it embodies an address by State Fire Marshal John G. Gamber, of Illinois. Mr. Gamber was not only the originator of this important course, but it was largely due to his perseverance and energy, ably seconded by the efforts of the committee in charge of the course, that brought the project to a head. The course was first held in 1924 and was the first of its kind ever presented in the United States. Other states have since swung into line and no doubt others will follow the example of Illinois in holding these schools for firemen. The first installment of the course appeared in the Fire Engineer and it will be continued in succeeding issues of Fire Engineering. Following is Mr. Gamber's address:

John G. Gamber, State Fire Marshal of Illinois

I feel highly elated at the wonderful showing made in the number of registrations at the opening session of the University of Illinois Course in Fire Protection. I have been told by the professors who have had charge of the short courses that this is one of the largest registrations which has been made or had at the opening session of any short course that has been conducted here. That, in itself, is evidence that the firemen of the state of Illinois are looking for an opportunity to study the problem and get first hand information. I feel grateful to the firemen, to the chiefs and to the city officials throughout the state for the support they have given this movement and I only hope that it will be an annual event. I have dreamt this, I have slept it and I have eaten it for the last five or six years. It has been my hobby. I have introduced resolutions, or had them introduced in the International and in the National Firemen's Association conventions and the Illinois Firemen's Association, and the Illinois Firemen's Association is the only one that has come forth and put their shoulder to the wheel and given it a good push.

Reason for the State Fire Marshal

The subject assigned to me is "The Work of the State Fire Marshal," In order that work be assigned to someone there must be a reason for doing that work. The fire losses in Illinois back in 1909, when the State Fire Marshal's office was first organized, was somewhere around eight or ten million dollars per annum. There was no idea at that time, when the office was organized or first established, about taking up actual fire prevention work in any other way than by trying to stop incendiary fires. That was the theory and on that basis the office was organized. Although authority and power were given to make inspections, the real thought was only to make inspections in connection with fires.

Real Work Begun in 1911

The law was passed in 1909 but unfortunately, and as perhaps some of the university trustees and officials have found out, the legislature doesn't always do the wise thing. They established the Fire Marshal's office and forgot to make any appropriation. Therefore, the office did not function very well until along in 1911, when it was finally organized. Prior to that time they provided for the salary of the fire marshal who was my good friend C. J. Doyle, but did not provide even for the salary of a stenographer or any deputies. Finally along toward the beginning of the session, the 1911 session, he himself, through the efforts of the then Governor, Charles S. Deneen, employed a few deputies with the understanding that they would have to wait for their pay until after July 1, 1911. The men accepted the proposition and started to work and, as I say, the first work was the investigation of fires in which they made a splendid record.

In 1911 the appropriations were made and the department was then fully organized with about eight deputies and two or three stenographers. That was increased during that two year period to about twelve deputies and three stenographers. It did not take very long for them to realize if they were going to make a dent into the fire losses in the State of Illinois, that they had to do something else besides the investigation of suspicious fires, so they established an inspection department in connection with the investigation department.

At that time the records show that they thought that they were doing wonderful work, and no doubt they were, when they were making 8,000 inspections per anum throughout the State of Illinois. The record last year in the office shows that we have made a little better than 65,000 inspections outside of the city of Chicago. We do not attempt to make inspections in the city of Chicago because they have a fire prevention bureau there which functions and it would only make an overlapping of effort, but we make investigations.

Fire Losses Increase

Well, we went along. The fire losses, instead of decreasing, increased. Of course, a lot of it is due to the fact that the population was fast increasing and the value of property going up. About that time the fire losses in the nation were something like $225,000,000 a year. The year 1924, with incomplete records, shows a loss in the United States of $548,000,000, a little bit over a half a billion dollars. That's a matter of loss in dollars and cents. Some will say, "Oh, well, look at the insurance; we got enough money out of it to rebuild." That is not the idea. Property that is burned up is gone forever into the winds and we have just reduced our resources in the States to that extent. As I have said, that's the side of the dollars and cents and property.

The records show that in each year there are about 15,000 lives lost, directly due to fire. In addition, there are anywhere from 17,000 to 18,000 crippled, the majority of whom are women and children, and many become charges of the state, county or municipality wherein the fire occurred.

In this State of ours, we have reached the sum of $20,000,000 per annum in fire losses, as shown by the reports made by the chiefs throughout the state, and including hundreds of deaths and injuries.

The Incendiary Hard to Convict

Now, we are getting down to the fire losses. As I have stated, there are two kinds of fire losses we must consider. One is the accidental, of which three-fourths, fully three-fourths, is preventable, and it is through a course of this kind that we expect to reach that and cut down that loss. The other kind of loss is the incendiary that generally is set for gain by some person who cares not what he does to the community or anybody else. It is just a matter of getting the almighty dollar. He is the hard one to catch, this kind of crook, for the simple reason that even when we do pin the facts on a fellow, sometimes the judge, sometimes the jury, cannot seem to see it in the same light as we do.

A Recent Case of Incendiarism

We had a recent experience in an up-State county where a man had a record of starting three fires within a period of three months. In one instance, a neighbor was putting up a very beautiful home for himself. This man was rather jealous of the neighbor because the home was somewhat better than the one he had himself, and he served this sort of notice upon his neighbor: "If you don't quit building your house so much better than mine, I am going to burn it down." The man continued on building; he did not think the fellow meant it. One night about midnight, the alarm went forth and sure enough, on the side of the house next to this fellow the fire had a fairly good start. The fire department saved a portion of the building. We investigated that fire, but did not get much support.

INDEX TO VOLUME LXXVIII

The Index to Volume LXXVIII, Fire and Water Engineering, ending with the December 30, 1925, issue, is now off the press and will be mailed to subscribers and readers on request.

A short time later he again served notice on somebody that he did not like them and he was going to give them a visit. He again made good his word. We investigated that fire.

The third time he bought a piece of property in that city for which he was to pay $10,000. He had $200 to pay down and was to pay the balance within five days. The contract was drawn up, everything was in good shape, the man who sold him the property was getting anxious for his money, the five day period arrived and in the meantime he forged a check and forged a note, trying to raise the money. He did not make good, the time for payment lapsed, the formal notice was served on him, which meant another five day's service, and the property was sold to another man. That night at midnight that building was set on fire.

While the fire department was working on the fire, this fellow was across the street from the building with a jimmy in his hand, trying to prevent the firemen from working on the building. He was arrested, taken to jail and the jimmy taken from him. By good fortune a portion of the front part of the building was saved and in that portion was a door which that fellow had jimmied. They noticed in the morning that the door was jimmied, went to the jail and got this jimmy and fitted it in the groove in the door jamb. That's the evidence we had to start with.

This fellow was indicted and the matter was postponed from time to time for trial. Finally it was called up and the attorney for the defendant asked that the man's sanity be inquired into. That meant another postponment. It went over for a week and it was again called up. They had not completed the sanity investigation and it went over for another week. Finally it came up for trial and the jury found him sane. The arson matter then came up for trial. The judge in the meantime had asked the prosecuting attorney, as well as the attorney for the defendant, what they wanted to try this fellow on. The fellow was not in court at that time and the sheriff was instructed to bring him in.

Finally the judge himself suggested that they try him upon the forgery charge and that he would suggest that the man plead guilty and he would give him one year, the arson charge to be withdrawn with the right to reinstate. The state's attorney did not take to that very kindly, but after consulting with the witnesses and some business men in this village, he consented. When the man was brought into court he refused to plead guilty, so the judge took him in charge, talked to him and finally he said, "all right, if you say so I will plead guilty." When the fellow pleaded guilty the judge, instead of fixing the sentence at one year, fixed it at six months and was going to take off of that time he had already been in jail, because he could not furnish bond, which would reduce the sentence another thirty days.

The state's attorney objected and said he would not withdraw the arson charge. The judge looked at him and said, "If you don't you are going to try him immediately on the arson charge." The state's attorney said, "I am ready, your honor." The judge said, "Now, let me tell you, young man, before you start, I am going to find the fellow not guilty." The jury was impaneled and the state's attorney offered his evidence. The defense did not offer any and when the state's attorney got up to argue, the judge called him down and said, "You have no argument to make; I have told you what I am going to do." He proceeded to produce the form of verdict, handed it to the jury and said, "Go back and get at it as fast as you can and find this man not guilty."

The jury was out twenty minutes. He sent the sheriff after them. The sheriff brought them in. He said, "What's the matter with you fellows, can't you follow the instructions of the court?" One fellow spoke up and said, "we have not organized yet." "Well," said the judge, "you are too late, you are discharged." Then he proceeded to find the defendant not guilty and entered an order therefor. Then he proceeded to sentence him on the forgery charge and gave him forty days. On second

(*Continued on page* 49.)

CHIEF THOMAS W. HANEY RETIRES FROM JACKSONVILLE DEPARTMENT

For More Than Three Decades He Had Been Prominent Figure in Fire Conventions—33 Years a Fire Fighter

THOMAS W. HANEY, veteran chief of the fire department of Jacksonville, Fla., relinquished that office on January 1, after serving continuously for more than thirty-three years. His retirement was marked by considerable honor shown by Jacksonville citizens. More than 150 prominent men in the fire insurance world and a number of city officials paid a deserved tribute to the retiring chief at a dinner tendered him on December 28 at the Hotel Seminole. He was the honored guest of the Jacksonville Pond, Ancient and Honorable Order of the Blue Goose, and the Jacksonville Insurance Association, which include many of the leading business men of the city. On this occasion he was the recipient of a $1,000 Liberty Bond from city officials and citizens, the presentation being made by Fred M. Valz, president of the City Commission, who said that the chief had "built up the best fire department in the United States." Herbert R. McMillan was advanced from deputy chief to fill the vacancy.

Chief Haney went to Jacksonville from Atlanta, Ga., in 1892, and had been at the head of the Jacksonville fire department since that time. He was one of the best-known chiefs in the country, being an attendant at all the International conventions. He served for one year as President of the International Association of Fire Engineers, to which office he was elected in 1913. As a debater on all subjects relating to fire departments, Chief Haney was always in his element. He had an inexhaustible fund of information at his tongue's end, and took delight in dispensing it when in the presence of interested parties.

Ex-Chief Thomas W. Haney, Jacksonville, Fla.

Memorial Services for Chief Crawley

Memorial services were held for the late Assistant Chief Joseph Crawley of New York who died one year ago from pneumonia contracted while fighting a fire. At the services which were held in the Church of St. John the Evangelist, New York City, were present Chief Crawley's widow, son and daughter, Deputy Fire Commissioner Hannon, Chief John Kenlon, Assistant Chief "Smoky" Joe Martin, Dr. Harry Archer, Father William E. Cashin and other fire department officials.

Bethlehem, Pa., to Have New Fire House—In its budget for the ensuing year, Bethlehem, Pa., has made provision for a new fire station to be located on Webster street. It will cost $15,000.

WITH THE EDITOR

HERE WE ARE!

This is the first issue of FIRE ENGINEERING, the consolidation of FIRE & WATER ENGINEERING and the FIRE ENGINEER.

You will recognize all of the leading features formerly carried in both of these journals. The consolidating of these two leading publications into one devoted solely to the field of fire protection lends itself admirably to rendering of a broader and more valuable service to the fire field.

In addition to the regular features appearing in both of the separate journals, it will be our aim to incorporate in each issue the very latest ideas in fire fighting with full details of all new developments in the field.

The Publishers of FIRE ENGINEERING are not oblivious to the greater responsibility which is before them, but with the continued loyal support of our readers the task will be greatly lightened.

The columns of FIRE ENGINEERING will as heretofore be open to its readers for the discussion of subjects tending to promote the welfare of this field.

The various movements for the improvement of the fire service will also, as in the past, receive the steadfast and vigorous support of FIRE ENGINEERING.

The various movements for the improvement of the fire service, including the two platoon system, proper compensation for firemen and officers, and sufficient apparatus and men, will as with our predecessors be steadfastly and vigorously supported in these columns.

With this humble introduction of itself, FIRE ENGINEERING steps out upon the field, a field which, though progressing rapidly, is open to still greater accomplishments, to which FIRE ENGINEERING whole-heartedly dedicates itself.

Defiance of Authority by Private Institutions

The futility of "kicking against the pricks" is just as inexorable a law today as it was in the early dawn of the Christian era. Its defiance leads to retribution as surely as night follows day, and it is within the realm of reason to expect the violators of the fire laws in Newark, N. J., to yield to the recent warning issued by the officials of that city to put all hospitals, asylums and other institutions harboring human beings, in a safe condition, as respects fire. And yet at least one of them has assumed a defiant attitude toward the authorities.

For several years the director of public safety and the building inspector have been endeavoring to cause the managers of these institutions to eliminate the unsafe conditions. These warnings have been ignored, and in some instances, to the point of defiance.

Last week the city officials issued an ultimatum, ordering nine public institutions to close, as a result of the refusal to comply with the fire ordinances. Six hospitals and three homes for the aged and working girls were told to suspend at once, and a score of other institutions were instructed to make changes in compliance with the building code.

The edict was so drastic that it called forth a howl of indignation from the managers. "Should a fire break out in any of these institutions," said Public Safety Commissioner Brennan, "it would tax to the utmost the ability of our fire department to save life and property." Four institutions have agreed to comply with the order at once, while one, not only defies the order, but threatens legal proceedings, declaring that the publicity has injured its business.

The nine hospitals and asylums that have been ordered to close at once are frame structures of such flimsy material that any one of them would form a literal funeral pyre, in case a fire should break out. The order carried with it directions to more than a score of other buildings to make improvements looking to greater safety for the inmates.

"Newark Knows How," is the motto of the metropolis of New Jersey, and it has a great reputation at stake.

The results of the recent action on its part will be watched with keen interest by the fire chiefs of other cities.

Important Court Ruling

A verdict in favor of the complainant in a recent suit brought by the city of Cincinnati against a citizen for $500 damages for ignoring a fire prevention order of the fire department, is of more than ordinary interest. The case was tried by a jury in the city court. So far as can be learned, this is the first case of its kind that has ever been considered by a jury.

The defendant's attention had been called the second time to his neglect to obey the fire ordinances in respect to his buildings, but without avail. The result was that fire ensued. The $500 was the cost to the city in extinguishing the fire, the suit having been brought under the Cincinnati Personal Responsibility Ordinance, an ordinance which gives the city the right to seek, by civil action, the amount of expense incurred by the city in extinguishing the flames.

In his instructions to the jury Judge Hurley said: "It is a general rule that the violation of a duty imposed by statute or by ordinance is evidence of negligence which may justify a verdict against one who has violated the same."

As practically all fires are caused by carelessness, the only remedy is to eliminate the cause. This can be done by emulating the European countries, which in the majority of instances follow the Biblical law in which Moses in Exodus 22:6 says:

"If fire breaks out, and catch in thorns, so that the stacks of corn, or the field, be consumed therewith, he that kindleth that fire shall surely make restitution."

It is a safe prediction that if this law were in force in the United States and Canada, making a property owner responsible for a fire loss due to his carelessness, our staggering loss of half a billion dollars annually would be materially reduced.

It can hardly be expected that the fire losses of the United States and Canada will be reduced unless more radical measures are adopted. This opinion is predicated on the fact that possibilities of fire are daily increasing, due to the rapid growth of the automobile industry, the growing habit of cigarette smoking and other causes. The cost of handling matches, cigars and cigarettes in a careless manner amounts to more than $25,000,000 annually, and when it is considered that a single gallon of gasoline in explosive effect is equal to 83¾ pounds of dynamite, the possibilities of disaster due to carelessness are growing more rapidly than are the efforts in providing preventions.

If the Cincinnati case is accepted as a precedent by other municipalities throughout the country and followed up by enforcement, much good will doubtless be derived. The ordinance which the city sued to enforce had been lying dormant for years, and it might be well for other cities large and small, to look for something similar in their municipal archives.

A Wide Awake Fire Committee

The city of Detroit is fortunate in having a keenly alert fire prevention committee which is headed by H. L. Shearer, the secretary.

Not only does the committee carry out the work commonly assigned to fire prevention committees, but is wide awake in detecting possible fire causes.

The following letter which the committee submitted to a large tobacco company is characteristic of the thoroughness with which they carry out their work.

December 31, 1925

Liggett & Myers Tobacco Company, Folsom & Tower Sts., St. Louis, Mo.
Attention: Advertising Manager

GENTLEMEN: At the last meeting of the Fire Prevention Committee of the Detroit Board of Commerce, a matter of advertising by your company was brought up for discussion. Your ads on Chesterfield cigarettes are now being dsiplayed, showing a rather portly gentleman lying in bed smoking a cigarette. From a fire prevention standpoint, it is the belief of the committee that the psychology of such an ad on people, especially youngsters, is not good and might lead to serious fires if a practice were made of smoking in bed.

Our committee realizes that a thought of this kind did not enter into your drafting of this ad. Knowing that Liggett & Myers would not intentionally display anything that would be detrimental to the campaign of fire prevention which is being carried on in every city in the United States, we are calling this to your attention, asking that you look into the matter and, if possible, in the future give fire prevention consideration.

We trust that you will take this letter in the spirit that it is written. Our only aim is to protect the lives and property of the people through intensive fire prevention activity.

This committee will appreciate any co-operation that you can give us along fire prevention lines in your advertising.

Your very truly,
H. L. SHEARER,
Secretary, Fire Prevention Committee.

Fire Calls Less in Denver, Col.—Up to about the middle of December, the fire department of Denver, Col., responded to 1,811 fire alarms as against 2,361 alarms in 1924. Chief Healy feels sure that the fire loss will also show a marked decrease. The work of the fire prevention bureau is accredited with a large part of the decrease in the number of alarms.

MacMillan, New Chief of Jacksonville

The new chief of Jacksonville, Fla., is H. R. MacMillan, promoted from deputy chief on January 1, succeeding Chief T. W. Haney, retired.

Chief H. R. MacMillan, Jacksonville, Fla.

Chief MacMillan was born on February 22, 1871, at Charleston, S. C. He moved to Jacksonville, Fla., on July 20, 1893, and was with the Florida East Coast Railroad from July 26, 1893 to December 10, 1894. At the latter date he entered the service of the Jacksonville Fire Department. He remained with the Jacksonville department as a private until April 29, 1895, when he resigned and returned to Charleston.

On July 5, 1895, Chief MacMillan again went to Jacksonville and reentered the employ of the fire department on September 15 of the same year as a substitute. He was appointed a private of Hose Co. No. 2 on November 28, 1896 and served as driver of that company until October 15, 1899. He was promoted to foreman of Combination Co. No. 4 on November 10 of the same year, and was in command of that company at the time of the great conflagration of May 3, 1901.

On February 1, 1903, he was called to headquarters and appointed assistant chief. He was made deputy chief on January 1, 1920, and has remained in this position until his appointment as the head of the department, having served over thirty years through all grades.

Drennan Reappointed Fire Commissioner

Thomas J. Drennan has been reappointed Fire Commissioner for the city of New York by Mayor Walker. Mr. Drennan was placed at the head of the metropolitan fire-fighting force by Mayor John F. Hylan soon after the latter took office in 1918.

That he has filled the office with satisfaction is attested by his continuance in that position. For it can be said without exaggeration that the New York fire department stands at the head of all the organizations of the kind in the world.

It was mainly through the efforts of Commissioner Drennan, in connection with those of Chief John Kenlon, that the War Industries Board was induced to grant priority of shipment of fire department necessities on land and on sea during the World War.

During his eight years' service Commissioner Drennan has earned the confidence of the people who make up the greatest city in the world. The absence of friction and contention in his department has been noticeable, and the entire organization will doubtless express gratification at his reappointment. He is still a young man, a thorough executive, and equipped in every way to make the city of New York a safe place to reside.

San Mateo, Cal., Chief Retires

Thomas Burke, for the past four years chief of the fire department at San Mateo, Cal., tendered his resignation on January 1. He is succeeded by Assistant Chief Hughie Morris. One of the first acts of the new chief was to appoint truckman Elmer Wright as his assistant. Burke had been holding the dual position of chief of both fire and police department, and hereafter he will give his entire time to the latter. Chief Burke retires with high compliments from the City Superintendent.

Ellsworth, Wis., to Buy Fire Truck—The volunteer fire department of Ellsworth, Wis., plans to have new apparatus. Chief E. G. Druding and a committee are considering several plans to raise the funds, as the town is unable to cope with even a small blaze with its present facilities.

QUESTIONS AND ANSWERS

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Positive Displacement Pump

To The Editor:

What is meant by a "Positive Displacement Pump?"

I have been a reader of The FIRE ENGINEER for several years and will highly appreciate your answer to the above. Sincerely yours, H. B. M. Fire Dept., Bluefield, W. Va., Nov. 21, 1925.

Answer: A positive displacement pump is one in which the water is discharged by a piston or gear at a definite rate—such rates being predetermined and determined by the dimensions of the pump.

With a centrifugal pump the discharge does not vary directly as the speed of the pump for if the discharge port is throttled down, then the pressure may be higher within the pump but the discharge is reduced.

On the other hand with a piston pump the same quantity of water is discharged every stroke of the piston irrespective of the pressure. In other words displacement (or discharge) is positive or definite in the piston pump and is also in the rotary pump when the pump is properly packed.

The above statement does not take into account "slippage," which is leakage past the piston or gears.

To sum up, a positive displacement pump is a pump which displaces a definite amount of water per revolution or per stroke irrespective of the pressure. The only pump other than the positive displacement type which is now employed in fire department work is the centrifugal pump.

The Best Way of Putting on Tire Chains and Placing Engines at Suction

Capt R. F. Titus of the Seattle, Washington Fire Department would like information from the readers of FIRE ENGINEERING on the best methods of placing tire chains on wheels.

In writing to this journal Capt. Titus asks: "I would like to hear from some of our brothers through your columns a discussion on the best way to put on chains. There are many districts such as ours on the flat and which are paved where chains are not needed; but on the hill in the mud you can't go without them, and many other times in responding to alarms you are compelled to stop and put on the chains. So here is another case of "moments mean money."

We do quite a bit of pumping from the river and bay. We think we have the quickest way of doing it when it comes to getting our suction in the water and the line in action, but would like to hear from some of the others. If anyone has a time saver, let us all get the benefit. Respectfully yours, Capt. R. F. Titus, Fire Dept., Seattle, Wash.

One answer has already been received from a reader, Fireman A. J. Spring of Yonkers, N. Y.

Mr. Spring writes: "In answer to a request made by Capt. Titus as to the best method of putting on chains I would say as to a time-saver and as a very dependable method the practice of carrying a half dozen turnbuckles about four to six inches in length is an excellent practice. These are particularly beneficial where a chain breaks while answering an alarm. A turnbuckle may be attached to each side of chain to take up the slack, or better still, have your chains already equipped with turnbuckles, one on each end of the chain. The outside buckle being loose and as soon as you get chains in position take up on both buckles."

Editor's Note: The Editor would like suggestions on both of the questions asked by Capt. Titus. They will be printed in FIRE ENGINEERING for the benefit of our readers throughout the country.

Painting Marks on Fire Hose

To The Editor:

I have noticed in some cities of our state that engine companies in marking their hose paint lines of different colors around the hose where it is joined to the male coupling. Has this a tendency to make the hose jacket brittle? What is your opinion of painting lines around hose, especially so near the coupling? Respectfully yours, E. F. C., Fire Dept., Trenton, N. J., Nov. 13, 1925.

Answer: The painting of marks on fire hose does not injure the jacket but it does ruin the lining.

Most oils are solvents for rubber cement and rubber. Applying oils in the form of paint to the jackets of hose causes the cement holding the jacket to the lining to dissolve and separates the lining from the jacket.

This oil also causes the rubber lining to deteriorate rapidly.

While it is a very desirable practice to mark the hose in some manner or other, care should be taken if it is desired to paint the hose, to use ink, rather than oil paint. There are numerous kinds of indelible ink on the market which neither injure the jacket or lining and one of these should be employed in marking hose, rather than paint containing oils in any form.

Lodging House Fire With Guests Trapped

If you can find space in your valuable paper I wish you would answer the following question.

Assume the following as facts: A four story building used as a lodging house. There are front and rear stairways, windows front, rear and one side of building. You are in charge of an engine company to respond on a still alarm. Upon your arrival you are informed that several persons are trapped on the upper floors. The fire which started in the basement has extended and is making rapid headway throughout the building, and because of heat, smoke, gases, etc., you are unable to gain access to the upper floors. State in detail what you would do, and how you would handle the situation if in charge for 15 minutes. Respectfully your, D. W. S., Somerville, Mass., Nov. 14, 1925.

Answer: This is a serious situation for several reasons: First you respond with an engine company, and not a ladder truck; second, you are the only company

responding as it is a still alarm; third, there are no outside fire escapes from which you can work; fourth, the fire is rapidly spreading throughout the building and you cannot make the upper floors; fifth, you have no life nets, life gun, or long ladders to work with; you cannot use your scaling ladders because the fire would prevent your passing the windows on the upper floors.

As the problem does not state the type of building, if any, exists on the side of the lodging house on which there are no windows, no use can be made of such building.

Instantly upon noting the condition of the fire, transmit a first, second, and if necessary a third alarm depending upon the extent of the fire and the size of the building.

If any of the occupants on the upper floor are about to jump the only thing you can do is to secure horse blankets, tarpaulins, waterproof covers or other sheets which could be used in the emergency as life nets. If your truck carries waterproof covers then two or three should be used at one time (one under the other) and all held together so that when the people jump they will not go through the cover. Impress civilians into service to hold the covers.

If they are not being forced to jump then the next best thing to do is to get lines in operation from the street, stretching in two lines from your engine company and putting on 1¼ inch tips to drive the fire back and protect the occupants until scaling ladders can be used or until the ladder trucks arrive.

As you cannot get up through building by way of stairs to save the people due to the condition of smoke and heat in the building and as you cannot get quickly to the roof to ventilate, this is about the only thing you can do until additional apparatus including ladder trucks arrive.

Were it possible to use scaling ladders and the occupants were not being forced to jump then the thing to do would be to go at once to the roof and open up to provide ventilation, following up with streams through stairway least involved. It might be possible to get the people out by this means though, judging from the conditions of the problem, it is likely that this procedure cannot be followed. Streams which are being operated from the street can drive the fire back into windows of floors below the floors on which the occupants are trapped so that there would be no danger of them being burned or forced to jump by approaching heat.

Range of Stream; Air Chambers on Pump

To the Editor:

In the November issue of THE FIRE ENGINEER under the heading Questions and Answers there appears in Question No. 6 the following statement: "A small diameter fire stream has a smaller range than a large diameter at the same pressure."

The answer to this question says "True." Your answer to question No. 3 under the same heading gives the following example of two different nozzles under the same conditions. With all 1/8 inch nozzle at the end of 1,000 feet of hose and an engine pressure of 241 pounds there is 55 pounds nozzle pressure. With a 1½ inch nozzle under the same conditions there is 21 pounds nozzle pressure. My impression is that the greater the nozzle pressure, the greater the range. Therefore it follows that this smaller nozzle with 55 pounds pressure has a greater range than the larger one under the same conditions. This being the case why does Question No. 6 say it is true that the smaller diameter stream has a smaller range than a larger one at the same pressure?

Kindly answer the foregoing and the following questions at your earliest convenience.

Why is the air chamber of a piston pump always on the discharge side, and that of a rotary pump on the suction side? Your answers will be eagerly awaited in an early edition of your very welcome journal.

Respectfully yours,

T. J. N.,

Ass't. Engineer, Washington Fire Company,

Conshohocken, Pa.

Answer: Your impression is probably gained from the fact that you have assumed the pressure mentioned in the statement as being the engine pressure whereas it is the pressure of the stream, that is, the pressure at the nozzle.

To repeat the statement, "Small diameter fire stream has a smaller range than a large diameter at the same pressure." This pressure as noted above is the pressure at the nozzle—the pressure which actually produces the stream and not the pressure at the engine.

Were it the pressure at the engine, then your assumption would be correct, namely, that the range of stream from the smaller nozzle would be greater than that from the large.

When the pressures at both the 1 1/8 and 1½ nozzle are the same, the larger nozzle has the greater range. This can well be compared to the range of projectiles. As in the case of water, a greater nozzle pressure means a greater initial velocity—the velocity of the projectile issuing from the gun. 15-inch guns as employed in the navy have a velocity as they leave the gun of approximately 2,000 feet per second and they have a range up as high as 15 miles whereas the ordinary army rifle has an initial velocity of projectile of around 2,700 feet per second and has only a range of about three miles. The greater range of the larger projectile is due to its mass.

Answering your second question relative to the location of air chambers on fire engine pumps, it is true that the piston pump always has the air chamber on the discharge side. But the rotary pump also has it on the same side, and not the suction side as you state. The location of the air chamber may appear to be on the suction side but the function of the air chamber is to smooth out the pulsations created by the piston or pump rotors and must therefore be connected to the discharge side of the pump. There would be no object in attaching the air chamber to the intake side, where the pulsations are negligible.

Locating Apparatus to Cover Accident

To the Editor:

I will highly appreciate your courtesy if you will answer the following question in an early issue of your journal.

A truck company is locating on a second alarm and while proceeding to such location an accident happens to apparatus. What procedure should the officer in charge of the company take in the matter?

This question was submitted to Chief John Kenlon, head of the New York Fire Department, and his answer is as follows:

"Go to the nearest fire alarm box and send in his breakdown signal. The same procedure if the accident happened while he is returning to quarters after locating. The inference is perfectly plain here that the operator would call the next nearest truck company to locate. In well organized fire departments the assignment books provide for all such things. Yours very truly, John Kenlon, Chief of Department."

MAYOR BEHRMAN, NEW ORLEANS, DEAD; SECURED 1926 CHIEF'S CONVENTION

Was Also Host at 1914 Convention, Having Served Since 1904 as Mayor—Was in Fifth Term

MAYOR MARTIN BEHRMAN, of New Orleans, La., who will be remembered as the host of the 1914 convention of the International Association of Fire Engineers, and who was instrumental in the choosing by the delegates of the association of his city for the 1926 convention by the association, died in that city on January 13, after a protracted illness. The immediate cause of his death was heart disease. He was 61 years of age.

Mr. Behrman was born in New York. His family moved to New Orleans when he was a year old. He was left an orphan at the age of 12. He was elected Mayor in December, 1904, and held the office for sixteen years, being defeated in 1920. He was again elected to the office last April.

Mr. Behrman had been the official or unofficial ruler of New Orleans for thirty years, and for much of the time had wielded power throughout the State of Louisiana.

He was educated in the public schools of New Orleans and became a member of the School Board, Assessor and Clerk of the City Council. Later he was State Auditor.

The Late Martin Behrman, Mayor of New Orleans

On his election as Mayor he became ex officio president of the board of fire commissioners of New Orleans, and he always took a personal and lively interest in the welfare of the fire department. At the 1914 convention of the I. A. F. E. he was largely responsible for making the entertainment features of the gathering a success. To his energy also, largely, was due the credit for the choice of New Orleans a second time for the coming convention.

Mr. Behrman in 1898 and 1921 was a member of the Louisiana Constitutional Convention. In 1917 and 1918 he was President of the League of American Municipalities.

Death of Veteran Volunteer Fire Engineer

Jerome E. DeFreest, for forty years engineer of the Washington Volunteer Steamer Company, of Troy, N. Y., died in that city on Dec. 25. He joined the Hope Steamer company of that city in 1864, was an authority on steam engines, and introduced many changes in the fire fighting apparatus, which increased its efficiency.

Mr. DeFreest served in the civil war, and was several times selected as honorary escort for President Lincoln and President Grant. He was on the field at Appomatox Court House when General Lee surrendered.

NEW JERSEY FIRE CHIEFS HOLD QUARTERLY MEETING IN MILLBURN

Active Round Table Discussion Considers Status of Volunteer—President Ill at Home—Large Attendance at Meeting

IN THE absence of President Charles Greenfield, who was ill, the quarterly meeting of the New Jersey Fire Chief's Association was called to order in Millburn, January 14, by Vice-President Charles Nickerson, with more than 150 members present.

G. Howard Wilson, chairman of the township committee, welcomed the chiefs and the Rev. Hugh W. Dickinson, chaplain of the Millburn Fire Department and pastor of the St. Stephen's Church, gave the invocation. T. Howell Johnson reported that the present membership is 577, an increase of forty-five since the last meeting. Chief Stagg of Paterson was the only chief who passed away since the last gathering.

Col. Norman H. Schwartzkopf spoke on the relation of the fire department and the state troopers.

A luncheon was given the chiefs at the Parish House by the Millburn board of trade and busses were provided for transporting them to and from the convention place.

Following the luncheon, the chiefs went to the high school, where a motion picture on fire prevention, the one which was shown at the Louisville Convention, was exhibited. The students helped to entertain the visitors with songs and school yells, with three lusty "Firemen" on the end.

At the round table discussion in the afternoon, considerable discussion was given over to the question of whether a large annual fee for service to the volunteer fireman would change his status as a volunteer and make him eligible for the pension fund. Chief Schmidt, of Millburn, was given a vote of thanks for the excellent preparations for the meeting.

Among those who attended were the following:

Elias S. Amerman, Morristown; Charles M. Allen, Basking Ridge; James W. Adams, West Berlin; W. F. Adams, New Providence; Charles E. Bun, Bordentown; John J. Bauries, Milltown; O. F. Beutell, Red Bank; C. Brooks, Millburn; Walter J. Bond, Union; Peter Braen, Hawthorne; Aaron E. Baker, Maplewood; Harry J. Becker, South Orange; H. W. Breder, Egg Harbor City; Fred J. Collard, Dover; Joseph C. Chevenyer, Long Branch; Henry A. Christ, Milltown; Harvey Campbell, Irvington; R. M. Cadman, Newark; James Clark, East Rutherford; A. T. Callahan, Harrison; John J. Cullinan, Morristown; Hugh W. Dickinson, Millburn; Albert Chamberlan, Hillside; Wilbur F. Day, Morristown; George P. Dorer, Hillside; F. C. Decker, Westfield; Alfred Davis, Bayonne; William Duff, Carteret; William Exall, Newark; Howard Fox, Oaklyn; Stuart H. Fairservice, Mahwah; Harry J. Frances, New Brunswick.

B. Green, Long Branch; August Gerstung, Elizabeth; Frank D. Griffith, Long Branch; Samuel A. Gruver, Madison; F. M. Greene, Morristown; Charles B. Heckel, Mountainside; James G. Hofan, Bayonne; Charles E. Heil, Ridgefield Park; W. M. Hunter, Ridgefield Park; Benjamin Helmlinger, South Orange; Chris. H. Hasselhuhn, Carlstadt; Alex L. Herrlich, New Market; F. A. Helmlinger, South Orange; L. House, Bernardsville; Charles F. Johnson, Harrison; Adolph Jost, Oaklyn; T. H. Johnson, Bloomfield; Andrew G. Koehler, Somerville; Frederick H. Knapp, Harrison; E. H. King, Lebanon; George E. Koeber, Bloomfield; Joseph B. Kronenberg, Bernardsville; William H. Lewis, Mountain Lakes; A. B. Lembeck, Demarest; Henry J. Leutz, Keansburg; John J. Lehman, Bloomfield; Charles Lohson, Garfield; E. Bertram Mott, Rockaway; Paul J. Moore, Newark; Charles L. Nickerson, Wildwood; Frank T. Miller, Linden; C. A. Morris, Long Branch, A. Marotta, Louis Marzitelli, Garfield; John J. Masterson, N. Caldwell; S. B. Milliken, Bloomfield; W. H. Matthews, Greystone Park; B. R. Mascutello, Long Branch; M. Murphy, Eureka Fire Hose Co.; James J. McMillan, Orange; McConnell, Newark; John B. McGrath, Madison; E. H. McAllister, Morristown; John A. McIntyre, Morristown.

H. M. Norman, Boontown; A. C. Ogden, Kenilworth; E. R. Oales, East Rutherford; W. J. Presley, Long Branch; James Pennoyer, Millburn; Thomas Pryor, Lebanon; K. F. Pierce, Kearney; W. J. Quinn, Plainfield; C. E. Ripley, Jr., Dover; T. H. Ryan, Harrison; W. H. Ritzman, Rahway; George W. Reeve, Wyoming; Arthur Russer, Glen Ridge; T. Stalfa, Port Monmouth; Col. H. N. Schwartzkopf, Newark; J. W. Sutphen, Newark; R. Shamberger, Garfield; Frederick Schweitzer, Garfield; James J. Sheehan, West Orange; B. C. Stavely, Boontown; A. P. Smith, Madison; E. S. Sprinning, Bernardsville; F. M. Scantlebury, Amdyco Co.; Frank M. Schmidt, Millburn; John J. Towey, Newark; Fred A. Trowbridge, Morristown; Harvey C. Tarmin, Demarest; H. A. Trice, Ridgewood; N. N. Wolpert, *Fire Engineering;* G. H. Wilson, Short Hills, L. A. Waters, Madison; Charles A. White, Dover; G. B. Worth, Westfield; T. H. Wallace, Island Heights; W. R. Whittingham, Millburn; I. R. Wilson, Madison; Harry Wright, Bernardsville; J. A. Woods, Bernardsville; William Ziegler, Hackensack.

Leaky Pipes at Springfield, Mass.—The Water Department at West Springfield, Mass., attributes the latest trouble with its water pipes to a leak caused by turning on the water while there was air in the pipes, producing water hammer.

Large Main Breaks in Burlington, Ia.—A weak spot which developed in a 16-inch water main in Burlington, Ia., tore a large hole in the pavement and was responsible for a large part of the city being without water. Several of the cellars in the business section were flooded.

Milwaukee May Increase Water Rates—Milwaukee, Wis., is considering the advisability of raising its minimum water rate from $1.50 for 300 cubic feet to $1.75, and for excess water used by consumers from 15 cents to 25 cents. Increased operating expenses make this course necessary.

Chief Jones of Macon, Ga., Pensioned

Mayor Miller and the new council of Macon, Ga., who took office in December voted to pension, effective January 1, Monroe Jones, who for thirty-nine years has served as head of the Macon fire department. Chief Jones is also the oldest active fire chief in the state of Georgia; he has been a member of the fire department for forty-five years.

Captain Roquemore of Truck Co. 1 was appointed by the city council to take charge of the department as acting chief. The two-platoon system was abolished and on January 1, went back to the old-time one platoon system. Twenty men were dropped from the department's rolls and the Mayor and the city council claim a saving of $20,000 during the coming year.

The entire department is to be reorganized shortly and the salaries of the men are to be increased. Mayor Miller stated when he went into office in December, that he visited fire headquarters and other station in the city and that he did not see how the men thrived in such dirty and unsanitary houses. He also said that no records have ever been kept of the department and that the roster was worse than Villa's army in Mexico. Some of the men wore old dirty civilian clothes and were too lazy to ever clean the apparatus. All no-account timber is to be eliminated and new men put in. Mayor Miller states he wants a young man as chief and one who is "hard boiled." He said that he would get the man for the place even if he had to go to some other department for him.

JOHN A. STULB.

Ex-Chief Stagg of Paterson, N. J., Dies

John Stagg, former chief of the Paterson, N. J., fire department and well known in firemanic circles, passed away on Monday, January 11.

The Late John Stagg, Former Chief of Paterson, N. J.

At the meeting of the New Jersey Fire Chiefs in Paterson on January 22, 1925, Chief Stagg, who was one of the founders of the association and who was its first president, was presented with a handsome cane as a token of esteem.

Chief Stagg joined the Paterson fire department when the volunteer firemen received no compensation. He was interested in many of the movements for the betterment of the city in which he lived. The passing of Chief Stagg is particularly sad because of the death of his sister several hours previous who died from pneumonia. She had spent all her time when he was ill ministering to his wants, and this impaired her health —she was too weak to overcome the effects of her sickness.

Unusual tribute was paid to the former chief of Paterson at his funeral held Thursday, January 14. The body lay in state at the Masonic Temple where the community came to express their respects for their former chief.

At his funeral, services were held by the Masonic lodge, the G. A. R. and the Sons of Veterans. Many individuals and organizations sent floral pieces. At the grave, taps were sounded and one by one the local Civil War veterans filed past and placed a flower upon the casket. A number of retired and exempt firemen as well as all of the firemen of the off-shift were present.

The honorary pall bearers consisted of Mayor Colin M. McLean, Major Augustus Van Giesen, Thomas L. Coyle, chief of fire department; Commissioner George H. Burke, representative of the soldiers' home; John Bimson, retired police chief, and Edmund Shore. A police escort was detailed to accompany the funeral cortege.

Denver, Col., Has Small Fire Loss—The losses by fire in the city of Denver, Col., during the last year was less than $600,000, or nearly one-third below that of the previous year.

Nebraska State Firemen's Program

The 44th annual convention of the Nebraska State Volunteer Firemen's Association is to be held at Alliance, Neb., on January 19 to 21, the headquarters being at the Alliance Hotel, and the meetings to be held in the Imperial Theatre. The program is as follows:

Tuesday, January 19

7:30 P.M.—Reception for Firemen and Visitors—Imperial Theatre. Chairman—Guy Smith, Pres. A.V.F.D. Invocation by Chaplain Rev. A.Soundy, Minden. Address of Welcome—Mayor J. S. Rhein. Response—Rev. Walter C. Rundin, President N. S. V. F. A.
Address—"We Are Glad You are Here," S. H. Cole, President Alliance Chamber of Commerce. Response—Lloyd C. Thomas, Hastings Fire Department.
Gavel given by chairman to President Rundin. Appointment of Committees.
8:30 P.M.—Special Show at Imperial Theatre. Free to all firemen, delegates and visitors.

Wednesday, January 20

10:00 A.M.—Business session.
11:00 A.M.—Address, "The Sacrifices of a Volunteer Fireman," by James E. McGee, of Scottsbluff Fire Department.
11:15 A.M.—Address, John C. Trouton, Lincoln, State Fire Marshall.
11:30 A.M.—Greetings from the Colorado State Firemen's Association: W. A. Shellebarger, President, Castle Rock, Colo. Clinton Turnbull, Secretary, Denver, Colorado. Fred C. Vertrees, Treasurer, Englewood, Colorado.
12:00 Noon—Official convention panoramic picture.
1:30 P.M.—Business session.
2:00 P.M.—Address—"The Young Citizen and Fire Prevention," by E. L. Rouse, Scottsbluff.
2:20 P.M.—Address—W. S. Rathbun, Engineer, Denver, Colorado.
2:40 P.M.—Address—Harry K. Rogers, Chicago, Ill., nationally known as "Smoky" the celebrated fire clown.
3:30 P.M.—Memorial service in honor of our dead brothers. Music by Alliance Quartet. Eulogy by Chaplain Rev. A. Soundy, of Minden, Nebr.
3:30 P.M.—Mutual Aid session.
4:00 P.M.—Indoor fire demonstrations and instructions by: A. L. Graeber, Asst. Chief Denver Fire Department. Capt. Martin, Supt. Fire Drill School, Denver, Colo. Capt. W. E. Guthner, Secretary Denver Fire Department.
4:40 P.M.—40 minute demonstration on stage by Harry K. Rogers, "The Fire Clown."
8:30 P.M.—Annual Firemen's Ball. Dance free to all delegates and visitors. No Alliance fire boys allowed on the floor until 11 P.M. Dance held at Roof Garden.

Thursday, January 21

9:30 A.M.—Business Session.
10:30 A.M.—Address, J. C. Dumont, State Insurance Commissioner, Lincoln.
10:50 A.M.—Addresses by visiting Mayors.
11:10 A.M.—Address by Hon. Adam McMullen, Governor of Nebraska.
11:30 A.M.—Address, Hon. R. W. Hershey, Manager of Safety, Denver. Colo.
11:50 A.M.—Demonstrations by Denver Fire Dept. officials.
1:30 P.M.—Reports of committees.
2:30 P.M.—Closing remarks by "Smoky, the Fire Clown."
2:30 P.M.—Concluding business session.
3:00 P.M.—Election of officers and designation of next annual convention.
3:50 P.M.—Adjournment.
4:00 P.M.—Street parade—all firemen participating.
6:00 P.M.—Annual banquet—Alliance Roof Garden. Toastmaster—John W. Guthrie. 12 minute addresses by the following speakers: J. C. Dumont, Lincoln, Nebr. Mayor J. S. Rhein, Alliance. Rev. Walter C. Rundin, Mitchell, Nebr. Hon. R. W. Hershey, Denver, Colo. Gov. Adam McMullen, Lincoln. Musical numbers, Frank Farmer, Denver, Colo.
Bowery Dance at the Roof Garden.

New model triple combination car introduced in 1925 by the Kenosha Fire Engine Company (formerly the Winther Motor Company), Kenosha, Wis. The power plant used is a new design six-cylinder motor manufactured by the Waukesha Motor Company, with the patented Ricardo head. This model is put out in 500, 600 and 700 gal. capacities.

Pennsylvania Firemen May Organize—Organization of the North Penn Firemen's Association, to include the firemen of the Upper Valley section in Pennsylvania, is under way. The intention is to have a code of regulations for systematic co-operation in dealing with fires occurring in upper valley towns.

INDUSTRIAL FIRE BRIGADE SECTION

Fire Protective Rules at Kodak Plant

In connection with the opening of the new building of the Eastman Kodak Company in Kodak Park, Rochester, N. Y., a set of rules and fire department regulations were formulated to safeguard the 1,200 employees who are employed there. With the exception of the top floor, the building is used for a warehouse and stock room.

The fire department consists of a chief, assistant chief, also a captain for each floor. The captain is in charge of the fire until relieved by the chief. Each room or department shall have a lieutenant who shall assume charge of the safe egress of the employees from the building. They shall see that the fire doors are closed and that a search is made for all the occupants.

The department is then divided into squads with squad leaders who are instructed to conduct the squad safely from the building and to keep them in line until it is time to return to the building. One or more searchers from each sex are appointed to make a

New Concrete Warehouse Building of Eastman Kodak Company, Which Houses 1,200 Employees

search of the wash rooms to ascertain if all have left the building.

The telephone operator, as soon as fire is reported, must keep the trunk lines free from all other calls but those for calling the department and for the promulgation of the fire alarm. The relief operator must report to the switchboard immediately to assist in relieving the load.

The sprinkler attendants report to the chief and close the sprinkler valves as instructed.

The elevator operators upon the sounding of the fire alarm will cease from carrying the usual freight and will proceed to the top floor and work down carrying the crippled, aged or sick to safety. The janitors shall keep all aisles free from obstructions, while the door guards shall close the doors and allow no unauthorized person to enter the building.

One of the strong rules is that no matter how small the fire is, to immediately send in a city alarm. The fire chief must see that the employees make a safe exit, then do all to control the fire until the arrival of the city fire department. When the city fire department arrives, they will take full charge.

Some of the general rules are that on the sounding of the fire alarm, all are to stop work, shut off power and stop machines; shut off gas or other open flames; search for fainting employees and close doors and windows; put chairs, stools and other obstructions under or on top of benches or desks to clear the passageway; form line promptly with front of column facing usual egress aisle and wait for command from captain; lock valuable books and papers in vaults; march in rapid orderly manner, two abreast and not crowding on couple immediately in front; retain formation until dismissed or returned to the building. Women and children will always have the right of way.

The company's rule is that all persons occupying private offices must also participate in the fire drills.

Confesses to 40 New York Fires

A New York man, twenty-nine years old, who was caught by Fire Marshal Brophy in the act of running from a fire to which the fire marshal was responding, has confessed to setting fire to forty tenements in New York city solely for the excitement which he derived.

Mr. Brophy recognized in the party who was running from the fire, the one who in 1923 was convicted to setting fire to his own home. He was taken to Engine Company 256 for questioning, and after the returning company stated that they had rescued three families, the prisoner admitted his guilt.

"He was one of the worst firebugs we have ever known," said Mr. Brophy. "He doesn't seem to realize that lives were endangered by his acts. Why, five of the ten fires he started on Friday were set off within fifty minutes! We learned that his mania, dated back to the time he served in an army unit at Newport News. There he used to turn in false alarms, but he seems to be intelligent and we are sure he will go on trial."

The five fires mentioned by Mr. Brophy as having been set by the man within fifty minutes were at 151 Navy Street, a five-story tenement, for which the alarm was sounded at 4:22 p. m.; at 4:44 a call from 305 Myrtle Avenue; at 4:50 a call from 344 Myrtle Avenue; at 4:55 another came from 374 Myrtle Avenue and at 5 o'clock one came from 392 Myrtle Avenue.

On Christmas Eve he confessed he set eleven fires within a radius of four miles in the downtown section of Brooklyn after having set three fires early in the day at 102 DeKalb Avenue, 91 Hanson Place and 307 Flatbush Avenue—a total of fifteen fires for the day.

Fire Marshal Brophy said that the fires set between 6:30 o'clock and 8:35 o'clock on Christmas Eve were at 1 Ashland Place, 176 Willoughby Street, 414 Carlton Avenue, 827 Fulton Street, 642 Fulton Street, 738 Fulton Street 68 Clermont Avenue, 777 Atlantic Avenue, 440 Bergen Street, 472 Bergen Street.

On the previous day he confessed, according to the police, to having set fire to a house at 213 Hudson avenue and waited "to help the firemen." On the Sunday before, it was said, he fired the tenements at 350 Bridge Street, near a telephone exchange, and then went to 375 State Street to fire another building, the alarms for these coming within twenty minutes of each other. Thirty minutes later an alarm was sounded for 317 Bergen Street.

"I admire firemen. I love to watch them at work," he told Marshal Brophy, adding: "Sure, if I was a fireman I wouldn't start any fires."

Fatal Apparatus Wreck in Lexington, N. C.

Some overenthusiastic celebrant, with a twisted sense of humor, during the height of celebrating the entry of the New Year in Lexington, N. C., turned in a false fire alarm. Result: Three firemen dead, several injured and a big fire truck wrecked. Just a few minutes before 1926 arrived two false fire alarms were turned in. Truck No. 2 of the Wenonah mill section answered and was racing down Main street. As it reached Third avenue the truck grazed the fender of an automobile driven by J. H. Thompson, of Lexington. The truck veered and turned over three times. The firemen were helpless. The dead are: Douglas C. Cope, 50; Edward Cope, 25, his son, and Howard Michael, 30. Douglas Cope and his son Edward both leave wives and children. Mr. Thompson, whose automobile was struck by the fire truck, is not held responsible, as the accident was considered unavoidable.

D. C. SPENCER.

Wilton, La., Elects New Chief—A. B. Darting has been elected chief of the fire department at Wilton, Ia.

METHOD OF HANDLING OIL FIRES DEMONSTRATED BY PRACTICAL TEST

Andyco Foam Generator Using Foam Powder and Water Puts Out Fire in One and One-Half Minutes

A VERY satisfactory oil fire test was conducted at Wilming Delaware, on December 18, 1925, before the Flammable Liquids Committee of the National Fire Protection Association and representative of several oil companies.

The arrangement for extinguishing the fire with Amdyco continuous foam generators and Amdyco Foam Powder were as follows:

Chief W. J. Lutz of the Wilmington Fire Department was in charge of the demonstration and provided a pumper used to raise

Upper: Pit fire in Amdyco test after it had been burning for 10 minutes. Center: One minute and ten seconds after foam generators had been started and streams operated on fire. Lower: Fire completely extinguished in one minute and thirty seconds.

the water pressure from the hydrant to 150 pounds after which the water was sent through 450 feet of 2½ inch hose to a two-way gate. From this gate two 50-foot sections connected the line two standard Amdyco Continuous Foam Generators operating at a water pressure of approximately 80 pounds per square inch. The foam line from each generator consisted of 100 feet of standard 2½ inch rubber lined fire hose equipped with nozzle.

The nozzle men on the first line were Lieutenant Bevis and Firemen E. Gibson and C. Wallace; and on the second line, Lieutenant Byrne and Firemen Greaves, Mutschler, Lux and Harkness. Assisting Firemen T. P. Plummer and W. G. Ray attended the two Amdyco Continuous Foam Generators.

It was the desire of the Amdyco Company to have men other than their organization men run these tests to demonstrate that the apparatus is simply operated and that no special training or knowledge is necessary.

A pit measuring between 40 and 50 feet in diameter was partly filled with water and on which was discharged 2,720 gallons of crude oil, gasoline and kerosene in proportions corresponding to Pennsylvania crude oil. The oils which went into the mixture included 15% gasoline, United States Navy specification; 15% kerosene, 44 gravity, 140 flash; 15% gas oil, 36 gravity, 200 flash; 55% heavy fuel oil, 15 gravity, 275 flash.

The oil was ignited and allowed to burn for 10 minutes before the signal to commence the test was given. In one minute and ten seconds after Chief William J. Lutz gave the order to generate foam, the fire was under control, and in one minute and thirty seconds was completely extinguished.

It was remarked at the demonstration that inasmuch as this was the first time these firemen had ever handled the Amdyco Foam Powder and the Amdyco Continuous Foam Generator, it spoke well for the simplicity of the system.

After extinguishing the fire a Super-Generator was operated discharging foam through four sections of 6-inch pipe. This pipe may be seen in one of the photographs herewith and was installed for demonstrating the practicability of connecting the Amdyco Continuous Foam Generator to permanent piping for conveying foam to tanks.

A brief description of the Amdyco Continuous Foam Generator may be of interest. While at this test the Amdyco Continuous Foam Generator was operated at a water pressure of 80 pounds per square inch, it will operate through a range of 35 pounds to over 150 pounds. Amdyco Foam Powder fed into the hopper of the generator is drawn into the water jet resulting in a chemical action producing a foam of any desired consistency in the foam lines by adjustment. One pound of Amdyco Foam Powder when mixed in the proper way with one gallon of water will produce foam in excess of the product of a gallon of combined solutions as used in the two solution foam system.

Amdyco Foam Powder is supplied in hermetically sealed tins of convenient size with covers specially devised for immediate easy removal. This keeps the powder absolutely dry. The powder is not affected by frost.

It was the consensus of opinion that the test was one of the most severe ever staged in the history of oil fire prevention to determine the effectiveness of the extinguishing apparatus.

Among those in attendance at the test were:

H. L. Miner, Manager Fire Protection Division, E. I. Dupont de Nemours & Co., Chairman; H. E. Newell, National Board of Fire Underwriters, Secretary; R. P. Anderson, American Petroleum Institute; Edw. L. Bailey, National Aeroil Burner Co.; S. L. Burgher, New England Insurance Exchange; R. M. Cadman, Schedule Rating Office of New Jersey; W. J. Chattin, New York Reciprocal Underwriters; F. A. Epps, Tidewater Oil Co.; T. J. Gilsenan, Texas Co.; C. B. Langdon, Insurance Association; I. Osgood, Boston Board of Fire Underwriters; W. O. Flatt, *National Petroleum News;* A. M. Schoen, South Eastern Underwriters Ass'n; H. Schoemaker, Standard Oil Co. of N. J.; E. J. Smith, Underwriters Laboratories; W. B. White, New York Board of Fire Underwriters.

Newark, N. J., Issues Warning to Hospitals

After exhausting all reasonable persuasion to induce the managers of its city institutions to comply with the building code, Director of Public Safety Brennan and Superintendent of Buildings Bigelow of Newark, N. J., have issued a peremptory order to at least nine private hospitals and asylums to suspend business at once, and to remain closed until these buildings have been made safe from loss of life in case of fire.

"Conditions must be remedied," said the Public Safety Director. "Should a fire break out in any of these structures, it would tax the capacity of our fire department to save life and property. I want to be reasonable, and will co-operate with the managers in remedying this condition, but it must be done."

Cries that they were being persecuted, refusals to comply with the orders to make their buildings safe or close up, and threats of legal action for damages because he gave the newspapers the facts, have been coming to the official. Despite the uproar, however, four of the institutions denounced have agreed to comply with the orders at once. The superintendent of one hospital, a woman, stubbornly refuses to obey the order, and defies the law, declaring that she will sue the official for giving the facts to the newspapers, which will also be called to account. She says that it has hurt her business.

However, the enforcement of the fire ordinances is going to be carried on until the unsafe conditions that now exist in most of these institutions are eliminated. Newark has had its share of holocausts and it purposes to prevent further loss of human life.

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

The Youngest Fire Department.*

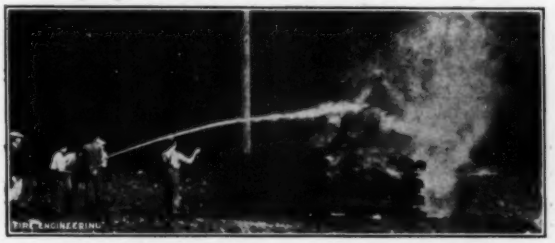
By G. L. KNOTTS.

The small boy has always been counted among the fire hazards that are difficult to control. In our village at Dupont, Washington, the problem has been solved in an unique manner by the organization of a Junior Volunteer Fire Company. This has

Junior Fire Company of Village of Dupont, Wash. Age of Members Ranges from 12 to 15 Years.

brought the youth of the village into the classification of assets in the fire fighting machinery instead of listing them as liabilities. This junior company is composed of boys ranging from 12 to 15 years of age, none of whom are ever guilty of carrying matches, and every one of whom is an enthusiastic supporter of the doctrine of safety first in the handling of fire.

Under the direction of the writer the company was brought into being with a chief elected by the boys themselves, who



Company Extinguishing Fire Built to Practice On.
Their choice of location for fire might be criticized as being too near to the fine grove of evergreens shown in background.

appointed their assistant chief and captains of the various streets. From the first the dignity of the movement was impressed upon the boys by turning the fire fighting apparatus of the village over to them as completely as though the new company were composed of men. No reservations were made and the turning out of the hose carts for drill caused bewilderment of the mothers, fathers, and the smaller brothers and sisters of the members of the company. The crowning glory of the honor of being members of the company came one day last fall when the boys touched a match to a make-believe building which they had erected themselves out of discarded cross ties and then made a spectacular run through the main street, with all traffic halted for the occasion, connected the hose to a fire plug, and extinguished the fire.

The thrill of the feel of the water in the hose as it played on a real blaze furnished the culminating sensation that was required to make the boys understand they were real fire fighters and will be counted on by the management of the Dupont plant to take charge of affairs in the village in case of emergency, secure in the assurance that their place is on the fighting line and that their presence and assistance will be welcomed. This will be a radical change from the usual circumstance surrounding the small boy at a fire, where he has always been considered a nuisance.

Upon the arrival of men, the boys will immediately surrender their streams to the men and assume the duty of patroling the burning area. In all of the drills the actual fire apparatus has been used and the boys have a good working knowledge of the equipment, the location of hydrants and the proper method of getting water on a fire to accomplish the best results in the most speedy manner.

The boys hold weekly meetings in the writer's office located in the village, with the writer as chairman of the meeting. They have their own secretary and treasurer and have adopted the following rules:

1. Be on time at all meetings.
2. Always stick up for the company.
3. Never carry matches, and report any children to their parents who are seen playing with matches.
4. Never play with fire equipment nor allow anyone else to meddle with it.
5. Always report fire hazards at once.

The duties of this company are as follows:

1. Make weekly inspections of all hose houses in the village to see if night lights are burning, ladders are in place, and that no obstructions are present to prevent getting hose carts out of house.
2. Curb the match carrying tendencies of small children.
3. In case of fire turn in alarm, and get hose cart to scene of fire as quickly as possible; connect hose to hydrant and get water on fire; upon arrival of men surrender the hose to them and assume duties as scout patrol.

*Reprinted from N. F. P. A. Quarterly.

Concealed Spaces — Hidden Troubles for the Fire Department.

Concealed spaces within a building are always troublesome to the fire department in fire fighting operations.

The less experience members of the department have in build-

Fig. 1.

ing construction, the more dangerous concealed spaces become.

Fire may apparently be out to the untrained eye but upon investigation it may be found to have traveled or to be traveling to other points within a building, only to reappear or break out at some distant point leaving a trail of fire behind it.

Most firemen are familiar with the concealed spaces within plaster partitions and behind plaster walls.

In balloon frame type of construction where there are openings or passageways the entire height of a frame building these spaces constitute a particularly severe hazard because if fire starts in a lower part of the building it travels very quickly to the entire height of the building and involves the attic or cock loft with surprising speed.

Fig. 1 on page 25 shows a lath and plaster partition after a fire and also shows the ceiling spaces between the ceiling and the

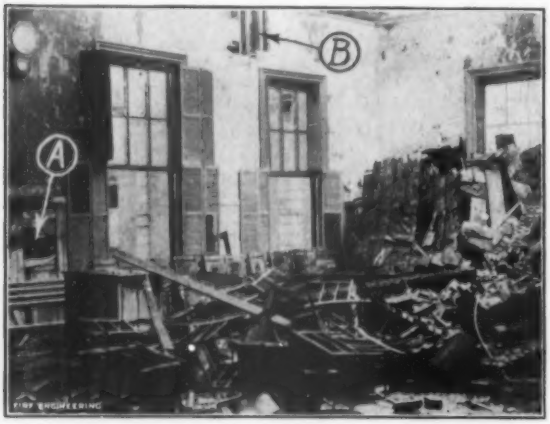


Fig. 2.

floor above where the fire has burned off the larger part of the lath and plaster.

Note in this particular illustration that fire starting in the basement of the building might have traveled up behind the book cases and not shown any evidence of itself until it had reached a point near the ceiling.

In operating at a fire men should employ all of their senses in detecting concealed fire. First, visual inspection will show discoloration of paint or paper which is certain to indicate fire burning behind lath and plaster.

If there is any question as to whether or not the fire exists

Fig. 3.

in concealed spaces, feeling over the wall with the hand will locate the hot spots and will give the men a pretty fair idea of where to open up.

Then, too, the sense of smell is particularly effective in detecting burning articles or burning materials within walls or concealed spaces. Many a fire has been located through the detection of smoke, and the characteristic odor of the burning materials.

Hearing, too, is essential particularly in dark places in locating fire. The crackling of fire is distinctive and there can be no question of its presence when these characteristic sounds are heard.

Contrary to general impression wainscoting provides larger concealed spaces than lath and plaster walls or partitions. There is no appreciable thickness to wainscoting and as it is applied on the surface of the plaster it gives a greater depth of opening behind. Fig. 2 herewith shows the large space behind wainscoting where the wainscoting has been removed. (A) Shows the wainscoting removed and the open space behind it. (B) shows plaster removed with concealed space between uprights and faced on front and rear with lath and plaster covering.

Beware of wood finish on any surface where the room has been plastered. Note Fig. 3. Here the space around the door has been finished with matched lumber. Behind this lumber is an open space which would carry fire to the upper floor. Due to the thickness of the wood the presence of fire behind it in the concealed spaces would not be disclosed as readily as in the case of lath and plaster partitions which are either painted or covered with paper.

Fig. 4 brings out another point very vividly. Fire can pass within concealed spaces to adjacent building. This is what happened in the picture as shown in Fig. 4. Fire started at the rear of the two-story establishment and burned through the cock loft to the front. At the same time it passed through the wall, went up through the spaces between the outside sheathing and the lath and plaster of the three-story building, finally

Fig. 4.

trapping a family in the top floor of this latter building. At this particular fire the father and three sons lost their lives.

After any fire do not leave it until it is absolutely certain that the fire is completely out. Take no chances on fires in concealed spaces but open up wherever there is a chance of fire burning. As previously noted use the various senses which you possess to detect concealed fire and before leaving the premises convince yourself that there is no possibility of any fire remaining concealed.

Tournament Rules

The question of rules to govern tournaments in fire departments is one which deserves attention. Comparison of the results attained during these contests can only be made with results of other department contests when the tournaments are held under he same rules.

Tournament rules as employed by fire department associations varv considerably.

The following set of regulations employed by the Colorado State Firemen's Association is a particularly fine set and well bears copying.

It may be added here that the Colorado State Firemen's Association have set several records, some of which have been world records, for speed.

The Colorado State Firemen's Association Tournament Rules are as follows:

General Tournament Rules.

1. The tournament shall be held under the auspices of the Colorado State Firemen's Association, but the preparation of the same shall be given to the firemen and citizens of the place at

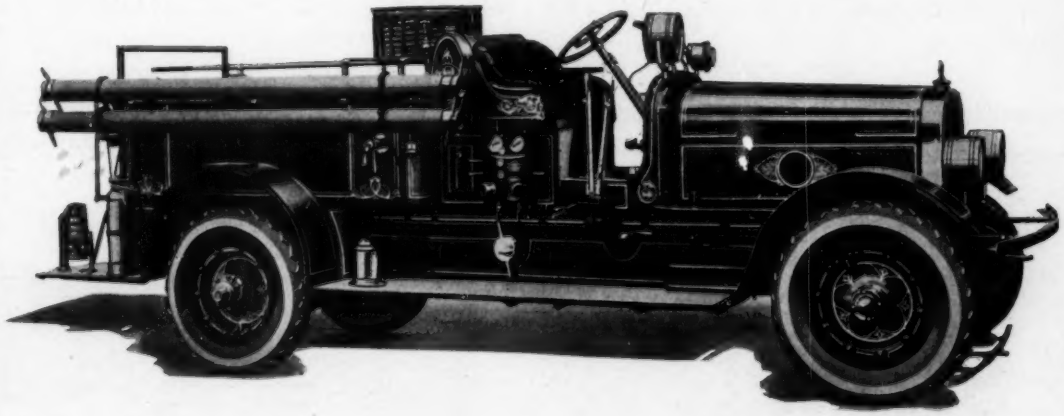
(*Continued on page* 41)

"Fire Engineering" is bigger and better! So are We!

More Seagrave Apparatus was sold during the year 1925 than in any previous year.

The reason is that we are always trying to make it better and better.

Here is the latest Seagrave



Let your next one be a Seagrave

THE SEAGRAVE CORPORATION

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BRANCH OFFICES

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New Haven, Conn. Kansas City, Mo. San Francisco, Calif.
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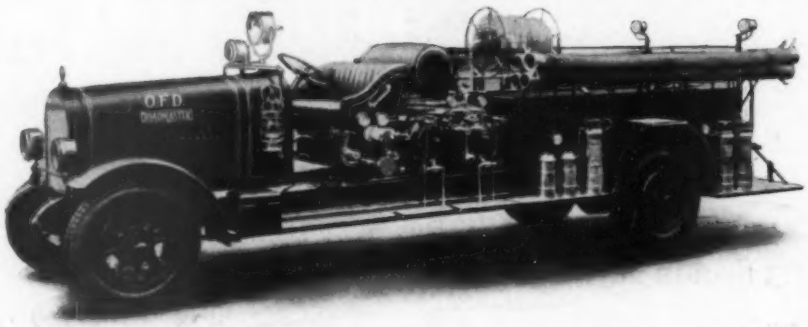
Selden Trucks



ROADMASTER 2¼-ton chassis with 6-cylinder 72 H.P. motor and triple combination 500-gallon pumper. Pneumatic tires 32 x 6 front, 36 x 8 rear.

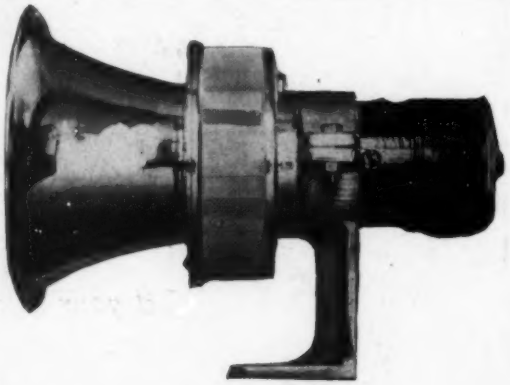
ROADMASTER chassis can also be supplied with 6-cyl. 86 H.P. motor to pump 600 gallons per minute, or 110 H.P. 6-cyl. motor to pump 750 gallons per minute.

PACEMAKER 1¼-ton chassis with 6-cylinder 55½ H.P. motor ideal for triple combination 350-gallon pumper. Pneumatic tires either 30 x 5 or 32 x 6.

PACEMAKER and ROADMASTER chasses can be lengthened for hook and ladder equipment.

SELDEN TRUCK CORPORATION, ROCHESTER, N. Y.

C. A. M. Sirens
are better sirens



They are designed solely for emergency signalling and are unsurpassed for ruggedness of construction, simplicity and accessibility of parts.

They are built to give service and to endure.

Bronze is used where bronze serves best; likewise with other metals. C. A. M. Sirens may well be classed as aristocrats in the siren field. They are "quality" sirens.

If you are in the market for the best that can be built in the way of electric fire apparatus sirens, get in touch with us. Write for bulletins.

C. A. M. Manufacturing Company

802 Humboldt Bank Building San Francisco, California

TWO FIRES IN FIFTEEN HOURS IN BIG WAREHOUSE BUILDING

Second Fire in Pittsburgh, Pa., Structure Completes Work of First—$100,000 Loss—Burnings of the Week

TWO fires occurring in the same building within a period of fifteen hours, both from all indications starting from some unknown cause, the first fire calling for two alarms and the second fire calling for three alarms completely destroyed the large four story brick building occupied by the McFarland Transfer and Distributing Company as a general storage warehouse located at the foot of Galveston Avenue, North Side, near the Allegheny River at the point where the Allegheny, Monongahela and Ohio Rivers meet, the first fire taking place on Tuesday afternoon and the second fire on Wednesday morning, December 1st and 2nd, the second fire proving to be one of the most spectacular fires that has visited the North Side section of the city for a number of years, causing a total loss estimated at $100,000 to buildings and contents.

The first fire broke out shortly after two o'clock on Tuesday afternoon on the fourth floor of the rear building, a four story brick structure, which is separated from the main building a four story brick structure facing on Galveston Avenue the two structure being joined by a two story brick built between the two main buildings.

Upon the arrival of the first alarm fire companies the fire was found raging fiercely on the fourth or top floor which was packed to the roof with furniture and other merchandise, heavy clouds of smoke pouring from the structure on all sides hampering the firemen in reaching the seat of the fire.

The first alarm at 2:18 p. m. from Station 39, about one thousand feet from the fire, brought Engine Companies No. 41, 44, 46 and 47 and Truck Company No. 47 to the scene of the fire, in command of Captain William Hutchinson, acting Chief of the Seventh Battalion.

After a half hour's hard work on the part of the first alarm companies, seeing that the fire was gaining, acting Chief Hutchinson at 2:50 p. m. sent in the second alarm which was answered by Engine Companies No. 43, 42 and 45 and Truck Company No. 46, Sixth Battalion Chief Nicholas Phelan, and Chief of Department M. F. Shanahan.

Upon his arrival with the second alarm companies, Chief Shanahan, learning that the second floor of the burning building was loaded with ten carloads of alcohol in barrels, steel drums and cans ordered his men out of the burning building to a safe distance, fearing that the fire would reach the alcohol and cause an explosion. The firemen, under the direction of Chief Shanahan, who fought the fire from all angles and points of advantage, succeeded however, in keeping the fire confined to the top floor and the roof which were entirely destroyed, the fire not getting below the floor on which it started.

In extinguishing the fire seven engine and pumper streams were used, 6600 feet of 2½ inch and 100 feet of one inch lead line hose all cotton rubber lined and 260 feet of ladders.

Twelve pieces of fire apparatus all motor driven and tractor drawn were in service at the fire as follows.

The duration of the fire was seven hours and fifty-five minutes, the fire being struck out at 10:13 p. m., by acting battalion Chief Hutchinson. When the last fire company left the scene of the fire to return to their quarters not a spark or a bit of smoke of any kind could be seen and from all indications had been completely extinguished.

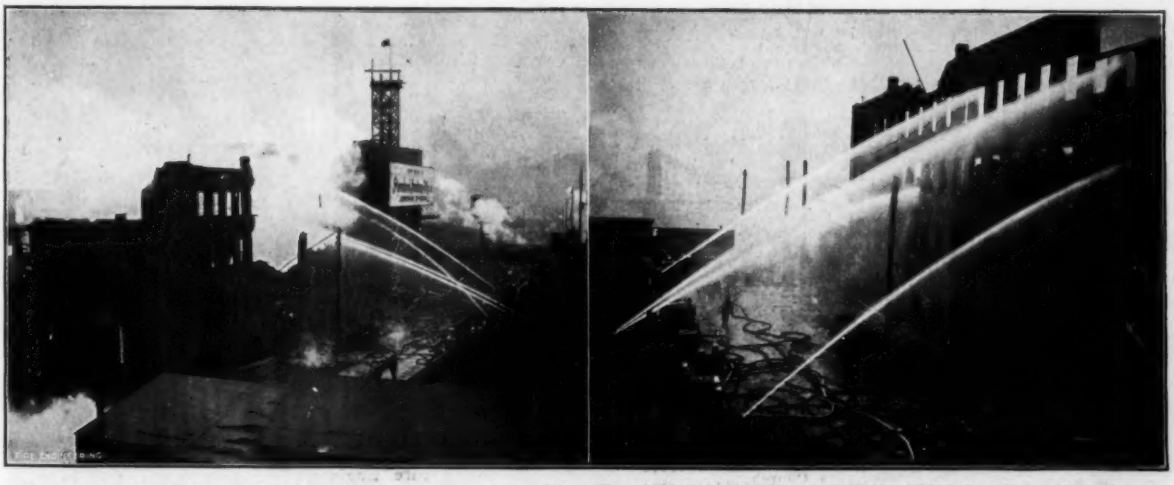
The second fire which completed the destruction of the entire warehouse buildings, broke out shortly before six o'clock on Wednesday morning under mysterious circumstances, approximately seven hours after the firemen had left the first fire. It took hard and quick work on the part of thirteen engine companies, one hose company and three truck companies, called to the fire on three alarms and a special call to keep the fire confined to the building in which it originated.

The first alarm at 5:57 a. m., from Station 39, the same station sent in for the first fire, was responded to by Engine Companies No. 41, 44, 46 and 47 and Truck Company No. 47, in command of Battalion Chief Nicholas Phelan of the Sixth Battalion filling in for the commanding officer of the Seventh Battalion, who was out at a church fire at Station 318.

The First Fire in Pittsburgh Warehouse. Rear Building from Railroad Yards.

Immediately upon the arrival of the first alarm companies, the firemen under the command of Chief Phelan made their way into the burning building and up the stairway to the second and third floors where they found the flames raging fiercely up the elevator shaft in the rear of the front building and in the areaway between the main and rear buildings, the fire evidently from all indications having started on the second floor of the main structure, near the elevator shaft. The flames, gaining rapid headway, soon drove the firemen back out of the building to the street. Seeing that the fire was more than the first alarm companies could handle, Chief Phelan

(*Continued on page* 46)



Views of Second Fire in Pittsburgh Warehouse. Left, After Front Wall of Building had Fallen, Knocked Down by Water Tower Streams. Right, Front of Building, with Streams from Wagon Pipe.

WHAT'S BURNING

From reports covering the United States and Canada, the estimated losses of fire during the week ending January 2, 1926, aggregated $7,400,800, as compared with $8,222,500 for the corresponding week in 1925. The total is derived by adding to the amount in the list given, which includes only those of $10,000 loss and over, a sum equal to fifteen per cent of that amount, statistics showing that the smaller fires average about that proportion of the larger. Losses for the week ending January 9, follow in their right order.

The figures published in this list, compiled from telegraphic reports of fires occurring during the weeks, are based on estimates made at the time, which are necessarily hurried and are subject to latter investigation and consequent correction. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

BROOKLYN, N. Y.—Furniture store of B. Gabriel..... 20
PORTLAND, ME.—The Edward J. Lawrence, six master, destroyed at anchor..... 90
MINNEAPOLIS,MINN.—Three-story brick building..... 33
NEW YORK, N. Y.—Two frame dwellings..... 25
BROOKLYN, N. Y.—Five-story brick tenement building..... 30
MILFORD, CONN.—Home for Convalescent Women..... 28
FELTS MILLS, N. Y.—Business section wiped out..... 23
DUNKIRK, N. Y.—Two summer estates along Lake Erie..... 50
ROCHESTER, N. Y.—Rae Oil Co. plant damaged..... 12
NEW BRAUNFELS, TEX.—American Legion hall..... 10
DOUGLASVILLE, PA.—House, barn and garage of D. Shirley.. 23
BINGHAMTON, N. Y.—Liggett's Drug Store damaged..... 20
PENFIELD, N. Y.—A. Paine residence..... 10
BALTIMORE, MD.—Toy novelty factory of Winchester & Woods damaged..... 25
STANLEY, N. Y.—House, barn, two autos and head of stock of G. Wolfe..... 12
SUGAR CREEK, PA.—Five summer cottages..... 11
HOUSTON, TEX.—Jones Lumber Co. yards..... 140
LEHIGHTON, PA.—Silk mill of C. R. Bowman damaged..... 10
CANISTEO, N. Y.—Barn and three autos of H. Roe..... 10
HUNTINGTON, W. VA.—Lewis Furniture store..... 90
STATE HILL, PA.—Slaughter house of I. Greth..... 18
SINKING SPRING, PA.—Pomeroy Country Club swept..... 60
ERIE, PA.—Store of J. Conklin..... 10
STAMFORD, CONN.—Factory of Warner Bros. paper box manufacturers..... 12
ST. PAUL, MINN.—Hamline Methodist Episcopal Church..... 60
NO. PROVIDENCE, R. I.—North Providence Garage and 28 autos..... 25
KEENE, N. Y.—Three buildings..... 10
TROY, N. Y.—Four frame dwellings..... 38
MARLBORO, MASS.—Michael Burke block on Main street..... 120
RICHMOND, ILL.—Richmond Flour & Feed Mill of G. F. Strand..... 23
STAPLES, MINN.—Palace Garage of J. Booth with 9 trucks and 15 autos..... 48
ROCKER, MONT.—Timber framing plant of Anaconda Copper Mining Co..... 145
PALINA, IA.—Herman Ewolt feed barn and Proehl Implement Co.'s building..... 35
HARLAN, IA.—General stores of W. Halloran and E. Keop... 16
KANSAS CITY, MO.—Storage barn of Schutte Lumber Co.... 23
HUNTINGTON, IND.—Furniture factory of S. H. Bowers & Co. 20
BARDWELL, KY.—Bardwell Co. plant, Walston paint store and a furniture store..... 48
BOWLING GREEN, KY.—General Store of S. B. Gilliam..... 18
TWO HARBORS, MINN.—Store of W. F. Lawrence Mercantile Co. and adjoining buildings..... 98
GREENUP, ILL.—Restaurant and adjoining stores..... 23
BIDDEFORD, ME.—Store of Mrs. Minnie Simensky, spread to four dwellings..... 18
BOONE, IA.—Farm dwelling of C. W. Alsever..... 10
HAZEL GREEN, WIS.—Zinc mill at Monmouth mine. Cause, overheated stove..... 12
CENTERVILLE, IA.—Dry good store of J. G. Joseph..... 20
WHEELING, W. VA.—Four stores in business district..... 385
VAN ALSTYNE, TEX.—Tom Bean Grain Co.'s two buildings and one box car..... 18
DENTON, TEX.—Rooming house used as dormitory of Teachers' College, and a grocery..... 10
MC ALESTER, OKLA.—365 feet of the bridge spanning the So. Canadian River on Jefferson Highway..... 23
YANKTON, S. D.—Turkey Valley Baptist Church..... 10
MOORESVILLE, N. C.—Farmers' warehouse and oil mills damaged..... 28
SUMMER, MISS.—Municipal water and light plant..... 172
SEDAN, MILL.—Business block with four stores and bank damaged..... 23
SAGINAW, MICH.—Boston store and several other buildings.. 85
PERRINTON, MICH.—Pool-rooms of C. Helms and general store 12
AINSWORTH, IA.—General store of A. R. Talbot and a drug store..... 16
CENTERVILLE, IA.—Dry good store of J. G. Joseph, damaged. 18
SULLIVAN, IND.—Sawmill of E. P. Snow..... 10
ROCKFORD, ILL.—Rockton grocery..... 10
MAGNOLIA, ARK.—Hull house and several thousand tons of cottonseed hulls of Cotton Oil Co..... 12
CHICAGO, ILL.—Three-story building of D. Bramson & Co..... 48
CONSTANTINE, MICH.—Warehouse of Constantine Paper & Boxboard Co..... 72
WALLINGFORD, CONN.—Entire block on Center Street between Meadow and Colony Road..... 145
ALEXANDRIA, VA.—Two grocery concern warehouses on waterfront..... 45
DANBURY, CONN.—Residence of H. McLachlan, Jr..... 10
NEWTON, N. J.—Lafayette. Presbyterian Church..... 10
ATLANTIC CITY, N. J.—Dr. M. A. Hallowell School of Adjustment for Children..... 45
NEWBURYPORT, MASS.—Two tenement block damaged. Cause, overheated stove..... 28
MIAMI, FLA.—Belcher Asphalt Paving Co.'s dock..... 20
PHILADELPHIA, PA.—Five-story building of Samuel Barnett & Co. and National Plating Co..... 195
ITHACA, N. Y.—Cayuga Operating Co. damaged..... 190
DARIEN, N. Y.—Two barns and contents including 18 cattle, 4 horses, an automobile and farm implements..... 18
MILWAUKEE, WIS.—Yards of Steinman Lumber Co..... 48
DALLAS, TEX.—Supply plant of Ly-Nola Co. damaged..... 23
SAN ANGELO, TEX.—Chonco Pleasure Pavillion hotel..... 15
BUFFALO, N. Y.—Three business place of B. Simon damaged.. 10
CLEVELAND, OHIO—J. A. Co. box factory..... 27
BUFFALO, N. Y.—Buffalo Slag Co. office and supply shop.... 12
CHAUMONT, N. Y.—Summer cottage of G. Barter..... 10
GLASSBORO, N. J.—Glassboro State Normal School damaged.. 15
SHENANDOAH, PA.—Modern Millinery Store, Shenandoah Light Lunch Rooms and New Mandour Hotel damaged... 48
ALCO, LA.—Alco Hotel of Alexandria Lumber Co..... 10
COLEBROOK, N. H.—Stewartstown House and nearby buildings damaged..... 45
ELGIN, ILL.—Kerber Packing Co. Cause, ammonia tank exploded..... 195
NEW CANAAN, CONN.—Home of Thayer Laccaci..... 48
NORFOLK, VA.—Seven stores in business section..... 48
NEW GLARUS, WIS.—Henry T. Freitag's general storage building with 17 autos damaged..... 10
CHIPPEWA FALLS, WIS.—Restaurant, millinery store and Chippewa Daily Telegram plant damaged..... 10
PORTERFIELD, WIS.—Farmers' Equity Storehouse..... 43
HOUSTON, TEX.—Oil well of Hersh No. 1 on Frank Long lease..... 23
JACKSON, TENN.—Plant of City Lumber Co..... 48
MILLERSVILLE, PA.—Barn, tobacco shed and outbuildings on farm of W. Wiles..... 18
TORONTO, ONT.—Lantz Furniture Co.'s factory..... 15
PLATTSBURGH, N. Y.—Restaurant of N. Dulos, a clothing store and a dwelling..... 12
PENDLETON, WASH.—Boardman Trading Co. store..... 12
ELKTON, MD.—Dwelling on farm of C. Callahan..... 10
PLATTSBURGH, N. Y.—Levy Block at Margaret street..... 33
MORGANFIELD, KY.—Odd Fellows Building..... 48
AKRON, OHIO—United States Stoneware Co. No. 2 factory damaged..... 97
PORTSMOUTH, OHIO—First Baptist Church..... 38
WESTCHESTER, PA.—Mushroom houses of Emmor Spencer.. 23
SLATINGTON, PA.—Dwellings of H. Schneck and R. Kuntz.. 12
POTTER, KAN.—General store of W. A. Hodg s spread to adjoining building..... 18
BENTON, ILL.—Five business houses..... 145
LIBERTY, S. C.—Millinery section of T. A. Gary department store..... 12
FERGUS FALLS, MINN.—Home Electric Store and City Grocery Store..... 10
PITTSBURGH, PA.—Oakmont telephone exchange damaged... 45
OCEAN CITY, MD.—Electric light plant of Eastern Shore Gas & Electric Co., two hotels and several amusement places, also a number of private homes..... 350

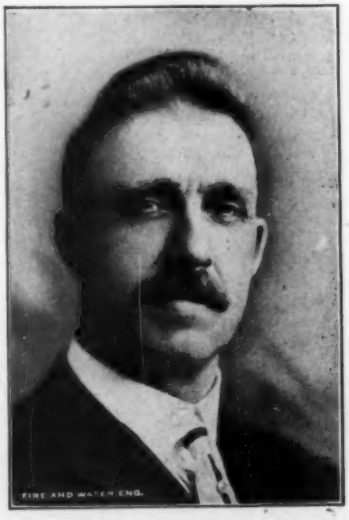
(*Continued on page* 49)

Ex-Chief McNarrey Goes with Stutz

John McNarrey, former chief of the Kansas City, Kan. Fire Department, has been appointed as manager of the new Kansas City, Mo., Branch of the Stutz Fire Engine Company, and will shortly open headquarters in that city. Chief McNarrey's territory is to include the states of Kansas, Missouri, Nebraska and Iowa.

Ex-chief McNarrey who joined the fire department of Kansas City, Kan., in 1893, and who is now in his fifty-seventh year, was appointed its chief in 1906. He has served continuously in that capacity since then, with exception of a period of six months.

He was retired at his own request by the city commissioners on May 12, 1925. He was granted a leave of absence of sixty days and at the expiration of that period his retirement went into effect, with a life pension on half pay, amounting to $125 per month.



John McNarrey, Ex-Chief of Kansas City, Kan.

The ex-chief has been an active member of the International Association of Fire Engineers for some years, and in 1921 served as chairman of the exhibit committee for the Atlanta convention of the association.

BUFFALO

One of the strongest proofs of the real merit of Buffalo apparatus is the fact that chiefs are constantly of their own accord writing us glowing letters of praise of their Buffalo apparatus in actual service.

Every piece of Buffalo apparatus must be right before it leaves the plant —and every piece is fully guaranteed. You can't go wrong with Buffalo apparatus.

"Built to *Your* Order" Apparatus

is Making Good Wherever Placed in Service

because every piece of apparatus is designed by our experienced fire apparatus engineers in conjunction with the local fire officials to meet the specific requirement of the particular department or municipality making the purchase—and only the highest grade materials and workmanship go into the construction.

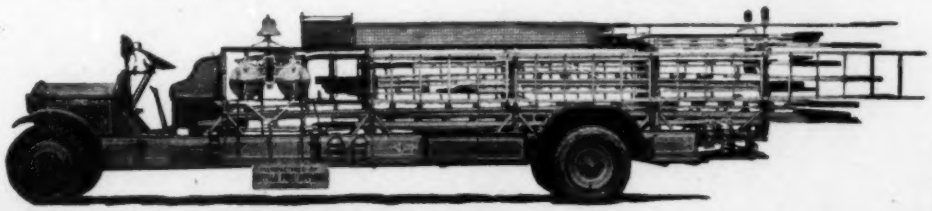
Every city, town or community selecting Buffalo apparatus is therefore certain to get dependable apparatus of just the type and size that will most effectively meet their own fire protection requirements.

Moreover, Buffalo Apparatus is economical. Our method of doing business and our large modern plant enable us to provide quality apparatus at comparatively low cost. This makes possible the immediate purchase of new apparatus with limited funds, or saves money that can be used to purchase other needed equipment or supplies.

May We Tell You More About Buffalo Apparatus and the Buffalo Plan?

BUFFALO FIRE APPLIANCE CORP

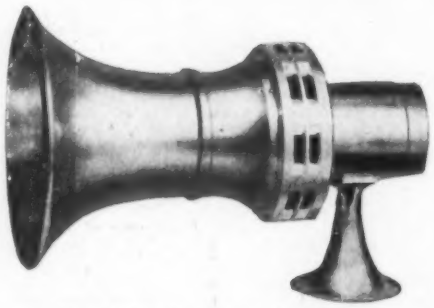
General Office and Factory **44 Central Ave., Buffalo, N. Y.**



BUFFALO

SIRENO

ELECTRIC SIRENS

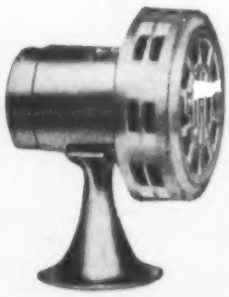


No. 11-S. Large sound volume

Sireno Electric Sirens will open up those traffic lanes far ahead and permit speedy response to alarms.

They are rugged in construction and give real service.

Despite their great sound range and power of penetration they spare your batteries.



No. 7-S. Large sound volume, but compact.

There is a **Sireno Electric Siren** for your every need.

A request for data will bring complete information.

The Sireno Co.

STATEN ISLAND NEW YORK

The *What* of LaFrance-Brockway

LaFrance-Brockway fire apparatus is a specialized apparatus for specialized usage.

It is the contribution of the world's largest and oldest manufacturers of fire apparatus to the safety of the small community.

American-LaFrance fire fighting equipment mounted on a speedy, rugged Brockway chassis insures full fire protection to the American town.

Pumpers, chemical cars and combination chemical and hose cars have been developed to meet every problem in fire fighting.

Requests for information are welcomed and promptly answered.

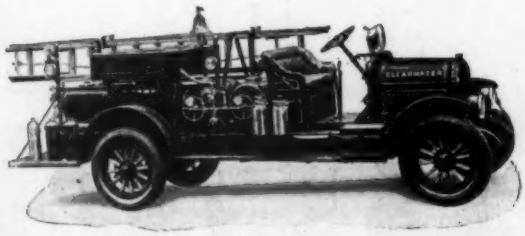
AMERICAN-LAFRANCE FIRE ENGINE COMPANY, INC.

ELMIRA, N. Y.

Canadian factory: Toronto, Ont.

BRANCHES

New York	Pittsburgh	Denver	San Francisco
Boston	Chicago	Minneapolis	Washington
Atlanta	Dallas	Los Angeles	Portland



FALSE ALARMS

JAZZING OUT THE FIRES

By F. A. R.

Note the clipping; I've been expecting something like this. Now they're making rhymes about it. Next they will set the story to music and use it to blow out the fire:

Howard Coonley, of the Chemical Warfare Service in New England, predicts that fires will some day be extinguished with sound waves, and shows

in a laboratory experiment that such a thing is possible. Bursting into song:

A lady, she was standing in
A window all afire.
The angry flames lept upward, but
Her accents rose still higher.
O firemen, do not long delay,
Strike up a lively air
And save my darling Pekingese,
So lovely and so fair.

The gallant firemen played some jazz
Upon that house so warm,
And saved the lady and her pet
From danger and from harm.
But soon from all the neighborhood
There came an angry sound—
They'd put out all the furnace fires
In seven blocks around!

EXECUTIVE ABILITY

Chief Conners (this is not his real name but used for convenience) headed a prominent western department prior to the time of civil service. He was not precisely a Chesterfield, and secured his position as fire chief through politics and was told to clean up and straighten up the department. Immediately on taking over his job he called the entire personnel of the department to headquarters.

"Now," roared Conners. "Yez are to worruk for me, and I want ivery man here to understand what's what. I kin lick any man in the department."

Two hundred and ninety-nine swallowed the insult, but one huge, double-fisted truckman moved uneasily and stepping from the line he said, "You can't lick me, Conners."

"I can't, can't I?" bellowed the chief.

"No, you can't," was the determined response.

"Oh, well, thin, go to the city hall and git your money," said Conners. "I'll have no man in me department that I can't lick."

A member of a large eastern fire department had lost one of his arms through an accident at a fire. He was subsequently assigned as a clerk to the chief of the department, and as such occupied a small anteroom in front of the chief's office.

One day while he was sitting at his desk a little dapper other-people's-business man walked into the office and took a seat to wait for an interview with the chief. The visitor at once noticed the fireman's left sleeve hanging loose and kept eyeing it in a how-did-it-happen sort of a way. The one-armed fireman paid no attention to him, but kept on with his work. Finally the inquisitive one could stand it no longer. He changed his position a little, cleared his throat, and asked: "I beg pardon, sir, but I see you have lost an arm."

The one-armed man picked up his sleeve with his right hand and peered anxiously into it. "Bless my soul!" he exclaimed, looking up with great surprise. "I do believe you're right."

WHEN PUBLICITY DOESN'T PAY

A very prominent fire commissioner of one of the large American fire departments was recently hearing charges preferred by one of the officers against a member of the department. The accused was a rather rough individual, and was attended at the trial by a number of his pals.

In making his decision in the case, the commissioner pointed out to those present that it was not necessarily untruthful because a witness changes a statement which he had made previously.

"For example," he said. "When on the way down this morning I would have sworn that I had my watch in my pocket, but when I went to look at it my pocket was empty and I remembered that I left it at home on the window sill in the bathroom."

After the trial was over the commissioner made his way home.

On arriving at the house, the first words his wife said to him were:

"Will you please tell me what all this fuss is about your watch. No less than five men have been here after it."

"Good Lord," gasped the commissioner, "I didn't send anybody! What did you do?"

"Why, I gave it to the first one, of course. He knew just where it was."

A philanthropist with plenty of money to spend was recently appointed fire commissioner in a western city. He had always been a fire buff and because of his good nature he could "get away" with things that possibly no other man interested in the fire department could accomplish. He had mighty high ideals and occasionally submitted the men to friendly little lectures on morality and allied topics.

Recently he gave the officers of the department a dinner at one of the local hotels, and during the course of the festivities he gave a short talk on home life and what two platoons had done for it, and ended up by adding a few comments on loyalty toward wives.

At the breakfast table the following morning one of the men who had heard him was relating to his wife an incident that occurred at the dinner. The Commissioner had offered a silk hat to any fire officer who could truthfully say that during his married life he had never kissed any woman but his own wife.

"And, would you believe it Mary!—not a one stood up."

"George," his wife said, "why didn't you stand up?"

"Well," he replied, "I was going to, but I know I look like hell in a silk hat."

HOT WORK AHEAD

[London Passing Show.]

Captain of Village Fire Brigade—"Eight pints o' beer, ma'am; an' do ye mind bein' a bit quick, as we be on our way to a fire."

FIRE DEPARTMENT ACTIVITIES

Colfax, Ia., Raising Funds—The firemen of Colfax, Ia., are raising funds for the purchase of fire equipment.

Malvern, La., Elects Officers—F. R. Chantry has been made chief, and J. H. Bell assistant chief, at Malvern, La.

Magnolia, Ark., Has New Truck—Magnolia, Ark., has bought a chemical truck mounted on a Dodge Chassis.

Frank Langan Made Chief at Jessup, Pa.—At the annual election of fire officials at Jessup, Pa., Frank Langan was made chief.

Centralia, Wash., Creates Pension Fund—A Firemen's relief and pension fund has been created in Centralia, Wash., for men 55 years old, who have served 20 years.

Elected for 38th Term—The Citizen's Fire Company of Harrisburg, Pa., recently elected Charles P. Meck President for the 38th consecutive term.

Fire Loss at Sioux City, Ia.—Sioux City, Ia., had 1,001 fire alarms in 1925, with a total loss of $242,670, according to the annual report of Assistant Chief John Yeager.

New Chief for Red Bank, N. J.—Harold Benson was elected chief of the fire department at Red Bank, N. J.; he succeeds Andrew Zeer.

Tacoma, Wash., Firemen Entertain Firemen—The patients of the American Lake Veterans' Hospital were entertained by a concert given by the firemen's orchestra of Tacoma, Wash.

Greensboro, N. C., Plans Bond Issue—The city council of Greensboro, N. C., is planning to issue $100,000 bonds for the erection of new fire stations.

Tacoma, Wash., Gives Salary Raise—In spite of the mayor's opposition, the firemen of Tacoma, Wash., have been voted an increase in wages.

Wallkill, N. Y., Buys Fire Truck—The village of Wallkill, N. Y., has appropriated $6,000 for the purchase of a fire truck of the combination type.

Placerville, Cal., Creates Fire Dept.—Placerville, Cal., has passed an ordinance creating a volunteer fire department, with a permanent Chief to be elected by the firemen.

Morgantown, W. Va., Buys Ahrens Truck—Morgantown, W. Va., has just bought an Ahrens-Fox fire truck at an expense of $16,500. It is to be delivered about March 1.

Huntington, W. Va., Improves Department—The city is considering the authorization of the purchase of fire apparatus made possible by a $175,000 bond issue. The bond issue will also finance the construction of several new fire stations.

Smithfield, Utah, Chief Buried—The funeral of Alma S. Hall, late chief of Smithfield, Utah, was one of the largest in the history of that city. As a mark of respect, the stores were closed while the funeral services were being conducted.

New Rules for Loveland, Col.—A new set of rules governing the fire department of Loveland, Col., as well as the conduct at fires, and an ordinance establishing a fire limit in the city has been drafted by the city council.

Geneseo, N. Y., Will Give no Outside Aid—The insurance companies threatened to raise rates there unless the fire department at Geneseo, N. Y., was kept at home; the firemen have been ordered to refuse all outside aid in case of fire.

Cedar Rapids, Ia., Records Heavy Loss—Cedar Rapids, Ia., sustained the heaviest fire loss last year that it has incurred during the past twelve years—it amounted to $406,256. The department answered 618 alarms.

Anderson Remains Chief at Fairmont, W. Va.—Harry C. Anderson has been chosen chief of the fire department at Fairmont, W. Va., for the 21st consecutive year. C. M. Charleton is assistant.

Boston Fire Hazard Removed—As the result of a protest against the menace of 55,000 barrels of gasoline in South Boston, District Chief Harry M. Hebard has agreed to place the tank under ground.

Two New Trucks for Marshalltown, Ia.—The Purchase of two 350-gallon Stoughton pumpers has brought the city of Marshalltown, Ia., fire department up to an efficiency in equipment never before enjoyed.

Northern Pacific R. R. Wins Court Case—The Northern Pacific Railroad was exonerated from the charge of being intrumental in starting a fire which destroyed the town of Burke, Idaho, on June 1, 1923. Sixty-five damage cases resulted in which a total of $1,400,000 was asked by the plaintiffs.

Rescue Squad at East Orange, N. J.—Investigation has shown that the loss of several lives in recent fires in East Orange, N. J., was due to dilatory alarms. The city has now organized a Rescue Squad, to remain at fire headquarters, and respond to all alarms, for the purpose of rescuing human lives.

Lovington, Ill., to Have New Apparatus—The city of Lovington, Ill., has purchased new fire apparatus—this was purchased over the mayor's objections and while the city will acquire additional protection, they may lose their present mayor. He has offered his resignation but it has not been accepted.

Chief Discharges Force and then Resigns—Chief H. F. Fitzpatrick of American Falls, Ida., as a result of a dispute which grew out of criticism over the location of a new fire station, has discharged the members of the fire department and then tendered his own resignation.

Tacoma, Wash., May Vote on Salary Increase—An ordinance has been drafted for providing that the question of the $40 a month increase for the firemen of Tacoma, Wash., be placed on the March, 1926 ballots. Commissioner Harrison stated that there is no doubt but what the ordinance would pass.

Bellville, N. J., Station Declared Unsafe—Charges have been made in Bellville, N. J., that the new fire station which was erected was unsafe. The city is trying to discover whether the fault lies with the architect or with the builder who may not have followed the specifications.

Cedar Rapids, Ia., Firemen Burned by Acid—A Cedar Rapids, Ia., fireman who was temporarily blinded when a solution of sulphuric acid and soda was thrown into his face, was assured by an eye specialist that he will regain the sight of his eyes.

Fire Facts Concerning Butte, Mont.—Eight dollars and ninety cents per hour went up in smoke in Butte, Mont., during 1925, according to Fire Chief Fred Martin. This makes the per capita loss for the city amount to $1.56. The city's total loss for the year was $77,972, as compared with $141,886 for the previous year. Six persons lost their lives by fire.

Firemen Graduate from Philadelphia School—Following an intensive course of fifty days, forty-seven students graduated from the Philadelphia, Pa., training school. With the fire chiefs from the neighboring municipalities as spectators, the graduates were put through a severe test by Instructor Anthony McRann. Diplomas were distributed by Chief Ross B. Davis.

Hears Prayer in Fire Ruins—While searching the ruins of the St. Jean Block in Marlboro, Mass., after a fire, the searching party were surprised to hear a voice lowered in prayer accompanied by the deep tones of organ music. Upon investigation a charred cabinet of a radio set was found from which the morning service from station WEEI, Boston, was being received.

Ponoma, Cal., Has Youngest Chief—Earl L. Kelly, twenty-four years old, chief of Ponoma, Cal., fire department is believed to be the youngest chief on the Pacific Coast and the youngest paid fire chief in the country. Chief Kelly served for two years with the Long Beach, Cal., department after being discharged from the naval service.

Corpus Christi, Tex., Awards Filter Contract—A contract for the construction of a new filtration plant for Corpus Christi, Tex., has been awarded to Sumner-Solliti Company at their bid of $43,263.93. The construction of the plant will require about 82,000 cubic yards of excavation, 1,295 cubic yards of concrete and 55 tons of steel.

Grand Rapids, Mich., Needs Apparatus—The National Board of Fire Underwriters credits the fire department of Grand Rapids, Mich., with being well organized, but says that some of its apparatus is obsolete. It recommends the establishing of a new company, equipped with a new motor pumper of 700 gallons capacity.

Des Moines, Ia., Asks Pay for Hydrants—The city council of Des Moines, Ia., was asked by the board of city water works trustees to pay $58,616, for the fire hydrants which were installed. It was felt that where the city had ordered hydrants moved, the city should pay, but it was unjust to charge for hydrants already existing.

New Jersey Firemen Killed by Motorist—While rolling hose after having fought a fire at a home for incurables near Ridgewood, N. J., two members of the fire department were knocked down by a passing motorist. One died and the other may have to have his arms amputated. Motorcycle policemen who gave chase to the car, found the car two miles away where it had been stopped by the local police.

DARLING
FIRE HYDRANTS *and* GATE VALVES

For many years Darling has devoted its energies to the development of simplified, yet mechanically perfect Fire Hydrants and Gate Valves for water mains. Specialization has reaped its reward in that these Darling products, wherever used, are considered far superior to similar articles on the market.

The Darling Hydrant's internal parts, for instance, including main valve and drip valve seats, may be readily removed through the hydrant top. It has a compression drip which cannot clog. A barrel delivers water to nozzles without perceptible loss of pressure. Compression valve closes with the pressure.

The Darling Gate Valve has revolving discs that seat at a different place each time valve is operated, insuring long wear. A wedging mechanism that carries discs over port and in front of seats before spreading. The parallel seats are renewable and have ground-in faces. The largest Darling Gate Valve can be easily operated by one man without artificial aid.

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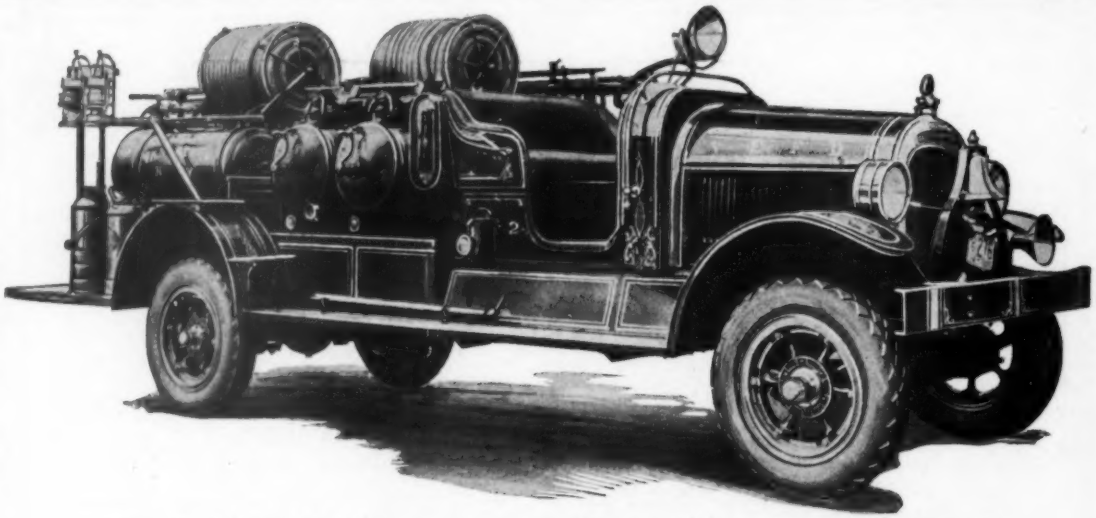

Fire fighting without a water supply is effectively accomplished with this "DELUGE" 4-Tank Chemical Truck. Superior features of "DELUGE" Tank construction have simplified and greatly increased the efficiency of chemical fire fighting.

THE PROSPECT FIRE ENGINE CO.,
Prospect, Ohio
"FORTIFY FOR FIRE FIGHTING"

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Erick Electric Siren

For **Volunteer Fire Departments** in towns of from 300 to 5,000 population, there isn't a Siren or a system in the world to equal the Erick. Night and day—year in and year out—it offers best protection to lives and property.

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That's our method of proving the Erick Electric Siren to be the fire alarm you need in your town. Place it side by side with the best of all other sirens for 30 days and then be your own judge—decide for yourself whether you want to keep it or not.

"When fire is discovered, call Central from nearest phone."

"The Erick Electric Siren Shrieks its call of danger to every nook and corner of your town—quick, sure and dependable."

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The Erick is the only Siren using one big whistle on a powerful 3 and 5 h.p. motor which throws its sound evenly in all directions—louder and more penetratingly than all others. Many special features including special designed hood and screen that protects siren from rain, storm, and nesting birds.

Write for full information and details of liberal 30 Day Free Trial Offer

ERICK ELECTRIC SIREN CO., INC.
95 South Wabasha Street
ST. PAUL, MINN.

Essentials in Handling Big Oil Fire

(*Continued from page* 10)

progress of the change in color of this stripe we can tell how fast the heat wave is going down; and if we know the level of the top of whatever layer of water or wet settlings there may be in the bottom of the tank, we can estimate quite closely the time at which a boil-over will occur. This information will enable us to make maximum use of men and equipment that we have available for throwing up emergency fire walls, etc.

Thus the information gained from our boil-over tests is of

Fig. 7. This Picture Shows Sharp Front Made by Heat Wave. Oil Spilled on Outside of Tank Volatilized Where Heated Above Line of Heat Wave, but Remained Below This Line.

distinct value to those in charge of oil fire fighting, and it has proved to be of greater benefit to us in planning safe construction.

Cannot Entirely Prevent Boil-overs

Having learned from our tests the reason why boil-overs occur, we next tried to figure out some way of preventing them. We could not change the physical characteristics of the oil, so the only condition which it seemed possible might prevent boil-overs in crude, would be to get the water out. This we tried in every way we could think of, even building some of the test tanks with cone-shaped bottoms for easy drainage. This was successful in a few cases, but we found we could never depend on it. Crude oil frequently contains emulsions of water and oil, and the water will not easily settle out. As water expands some 1,700 times when turned to steam, it takes only a very small quantity of water in the crude to cause a boil-over. We were therefore compelled to give up the idea of completely preventing boil-overs and turn our attention to trying to make those which we can not prevent as nearly harmless as possible.

(*To be continued*)

Stanley, N. Y., Elects Chief—Frank Thompson has been elected chief of the fire department at Stanley, N. Y.

New Chief for Sharpsville, Pa.—At the election of the fire department at Sharpsville, Pa., John Joyce was elected chief.

Wausaukee, Wis., Purchases Chemical—The village board of Wausaukee, Wis., has purchased a Boyer chemical car.

Orangeville, Ill., Buys Fire Apparatus—A Ford truck on which was mounted chemical tanks was purchased by Orangeville, Ill.

Assistant Chief Ogdensburg, N. Y., Dead—James St. Andrews, assistant chief of the fire department at Ogdensburg, N. Y., died on December 17 at the age of sixty-five years. He was the oldest man in the department in the point of service, having served for thirty-five years.

Veteran Boston District Chief Retires

Stephen Byington, one of the two remaining survivors in the Boston fire department who fought the great conflagration in that city in 1872, was recently retired. Chief Byington, who is 77 years of age, is at present in Carney hospital, Boston. He has been in active service until recently as supervisor of repairs of steam fire engines, with the rating of district chief. His record as a fireman dates back to his boyhood. He began to run to fires when 16 years of age, later became call fireman and then a member of the permanent department.

Inter-Chamber Fire Waste Contests

The Chamber of Commerce of the United States of America, with headquarters at Washington, D. C., although young in existence, has made formidable strides along fire prevention lines. But like most organizations devoted to this cause, it needs the co-operation of the practical fireman to make it one hundred per cent beneficial.

Although the fire chiefs, and in many cases, their subordinates in the fire service, have been of invaluable aid to the secretaries of local chamber of commerce, in carrying on their activities, it is suggested that an even greater effective tie-up can be brought about if the chiefs will volunteer their services to the secretaries in filling out the Contest Record Form, which has recently been sent out.

All cities in the contest are judged by the grading committee according to the information given on these forms. Much of it is obtainable from the chiefs and other officers of the fire department. Moreover, this will enable chiefs to obtain for their cities a higher rating than might be otherwise possible if they do not co-operate.

The Contest Record Form is simple in its construction, but complete as to the information it carries when filled out by the chief of a fire department. It shows the local fire losses incurred and fire prevention activities carried on during the year,

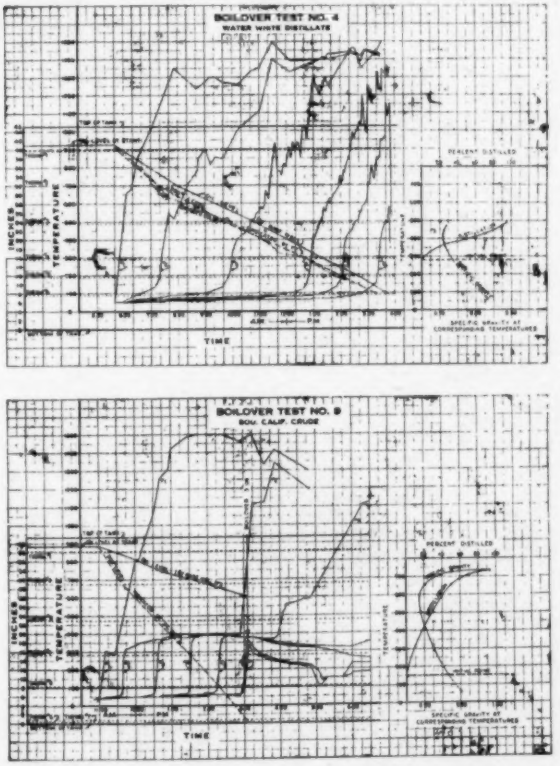


Fig. 6. Curves Showing Two Typical Boil-over Tests. Temperatures Are Shown in Vertical Lines and Time in Horizontal.

for the consideration of the grading committee in determining the winners of the contest awards. It is also replete with much other valuable information which a lack of space precludes FIRE ENGINEERING from reproducing.

Total Fire Loss in Country Shows Decrease for 1925

Figures Show Reduction from That of 1923 and 1924—Fire Losses by Months—Noteworthy Large Fires of Year

IT is gratifying to the leaders in the fire prevention movement and to the chiefs who have worked so diligently to keep the fire losses down, to learn that the total fire losses for 1925 for the United States and Canada, according to the records of FIRE ENGINEERING, show a most pronounced decrease. These records only take into account those fires which had a loss of $10,000 or over. The total loss for 1925 was $309,281,850; this may be compared with the $362,298,177 for 1923 and $377,161,135 for 1924.

Year's Fire Losses By Months

The losses by months for the years 1923 to 1925 are as follows:

	1923	1924	1925
January	$26,276,300	$38,440,350	$34,027,550
February	38,855,650	34,820,900	26,849,400
March	33,595,900	32,645,050	31,050,000
April	37,954,157	29,067,610	25,537,600
May	29,953,800	33,757,700	23,622,300
June	32,399,535	20,967,950	25,820,300
July	24,509,065	32,590,700	31,678,900
August	19,959,450	27,204,675	16,189,200
September	31,401,900	28,419,250	23,828,200
October	28,935,170	24,514,800	15,944,600
November	29,530,700	33,979,900	23,197,800
December	28,930,550	40,752,250	31,536,000
	$362,298,177	$377,161,135	$309,281,850

Classification of the Number of Fires

There were 4,102 fires during 1925 whose loss amounted to $10,000 or over. This can be subdivided into the following classifications: $10,000 to $20,000, 1,973; $20,000 to $30,000, 661; $30,000 to $40,000, 337; $40,000 to $50,000, 365; $50,000 to $75,000, 393; $75,000 to $100,000, 348; $100,000 to $200,000, 317; $200,000 to $300,000, 127; $300,000 to $400,000, 37; $400,000 to $500,000, 41; $500,000 to $600,000, 14; $600,000 to $700,000, 2; $700,000 to $800,000, 6; $800,000 to $900,000, 2; $1,000,000 and over, including one $3,000,000, one $4,000,000 and one $5,000,000 fire, 15.

The fires may be again classified according to months: January, 473; February, 348; March, 393; April, 566; May, 400; June, 382; July, 500; August, 265; September, 370; October, 297; November, 326, and December, 382.

Million Dollar Fires During Year

The following fires of $1,000,000 size or over are of noteworthy importance and stand out as the important fires of the year:

In February there occurred a large fire and explosion in the National Evans Film Laboratory at Fort Lee, N. J. The Luce Furniture Company fire at Grand Rapids, Mich., and the fire which occurred at the Kansas City Motor Show at Kansas City, Mo., are outstanding fires of the month.

During March, seven ships were destroyed at Beamont, Tex.; a fire at the Breakers, Palm Beach, Fla., spread to the Palm Beach Hotel and destroyed a number of nearby cottages and shops.

The Igloe Brothers' nail manufacturing plant at Newark, N. J., was the large fire in April.

In May, the lumber mills of J. Arnold were destroyed at Groveland, Fla.; twenty-three stores, factory buildings, and residences were destroyed at St. Joseph D'Alma, Quebec, Canada.

In June, a lumber yard and a manufacturing plant was destroyed at Hammond, Ind.

July, the celebrated month for fires resulting from the careless use of fireworks, will be remembered for the large fire caused by an explosion of fireworks in a warehouse at McKees Rocks, Pennsylvania.

An entire block was destroyed in Tia Juana, Cal., in September.

In November, seven blocks of wharves along the Mississippi River at New Orleans, La., were destroyed with the resulting damage of $3,000,000. The "Lenape" of the Clyde Line was burned to the water's edge at a point near Delaware Bay, while the boat was on its way to Florida. A fire occurred in Seattle, Wash., which damaged the plants of the Willys-Overland factory, and that of the Firestone Tire Co., and destroyed seventy-one carloads of automobile tires.

A fire in a creosoted pier at New Orleans, La., during December, resulted in a $4,000,000 loss. A large fire in which several buildings were destroyed occurred at Lake Charles, La.

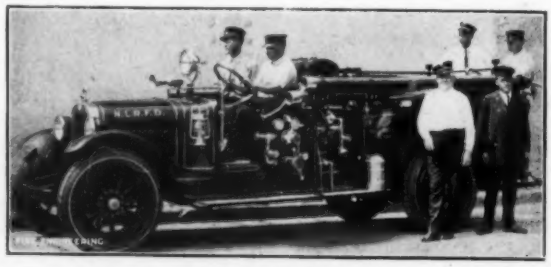
Interesting Studies in the Figures

Several interesting studies can be made of the figures as presented. The largest number of fires occurred during April, and the January loss of $34,027,550 was the largest in the amount of property value destroyed. July, with its inherent fireworks fire danger, was on par with the month of March and was greater than the loss which took place in December, even though that month has the great danger of the Yuletide celebration with its candles, tinsel and all.

December's Fires

The fires during the month of December whose losses equalled or exceeded $10,000, totaled 382. These may be classified as follows: $10,000 to $20,000, 161; $20,000 to $30,000, 52; $30,000 to $40,000, 23; $40,000 to $50,000, 35; $50,000 to $75,000, 25; $75,000 to $100,000, 33; $100,000 to $200,000, 11; $300,000 to $400,000, 6; $400,000 to $500,000, 1; $700,000 to $800,000, 2; $800,000 to $900,000, 1; $1,000,000 and over, 3.

In looking forward to 1926, the fire chiefs will have the more elevated standard of 1925 with which to compare the monthly and annual loss of the new year.



New Foamite—Childs triple combination car for the fire department of North Little Rock, Ark. The apparatus is mounted on a Graham Brothers chassis. It has passed all tests and has been placed in service. The men shown in the picture are R. N. Nichols, driver, and Alfred Roberts, hoseman, both seated on the front seat. Captain J. P. Caldwell and Hoseman Tom Farris are on the rear step and Asst. Chief Tom Welch stands with Chief Roy Nichols at the side of the apparatus.

Clermont, Fla., to Have New Quarters—The fire department of Clermont, Fla., will have new quarters in the city hall which is now being constructed.

January Issue of "Fire Alarm"—The January issue of *"Fire Alarm,"* the organ of the Motion Pictures Producers and Distributors of America, is fully up to the standard of previous numbers. There are several important features in connection with fire protection in the motion picture industry, and hints toward the elimination of waste and danger from fire in these lines.

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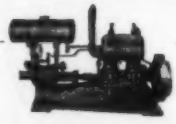

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the Volunteer Fire Department

Simple, Inexpensive, Practical
Write for literature

Evinrude Motor Co.,
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Milwaukee, Wis.

The Volunteer Fire Department

(*Continued from page 26*)

which it is held, they to conform to the rules and regulations of the State Association.

2. The Executive Board of the Association, made up of its elective officers, have full control of the tournament.

3. Before the closing of each annual meeting, the Executive Board shall appoint a committee of five from their own number to be known as the Tournament Committee, who will, in conjunction with the firemen and citizens of the place at which it is held, supervise the preparation and make all necessary arrangements as are not provided for in these rules and regulations, with full control and management of the tournament.

4. On the first day of tournament, the Executive Board of the Association shall select five judges, who shall constitute a committee of judges and award prizes and to carry out and supervise all competitive events as prescribed and provided for by the Tournament Committee. Three timekeepers shall be selected. If the watches of the timekeepers do not agree, they shall take the two nearest together and divide by two to the fifth of a second, and this shall be the official time, and no member of these committees shall act as timekeeper or judge of any event in which he is interested.

5. On the first day of tournament, the Executive Board shall appoint a committee of three from their own number to constitute a committee to receive and act upon affidavits, protests and appeals, and their decisions shall be final. Upon receipt of complaint, written notice of same will be served upon the company or individual member against which complaint is made.

6. Companies shall have the right of appeal from the decision of the judges to the Executive Board Committee.

8. All protests against companies or individual members must be made prior to their taking part in the tournament events. Written notice must also be served upon the company or individual member against which protest is made by the Executive Board Committee.

9. The judges must report their decisions to the Executive Board Committee and if there are no protests or appeals pending, the prizes and championship shall be awarded by the judges of award in tournament assembled.

10. The state championship prizes shall be the property of the State Association, subject to their call and control, but will be held in possession of the champion companies until the next tournament.

11. Any company winning any of the championship prizes three years shall hold the same forever, and the Association shall procure similar duplicates of state prizes so taken.

12. At no other time than the annual state tournament shall the championship prizes be contended for.

13. The term "service hose" used in tournament rules shall be construed to mean hose weighing not less than forty (40) pounds of cotton rubber lined, to fifty (50) foot section, and must have couplings each fifty feet; first section on cart to be exempt from male coupling, and measuring fifty feet.

14. All competing teams must take part in the parade (running suit optional), unless excused by the Executive Board. Line of march shall not exceed one mile. Place of starting and disbanding to be given the Executive Board before parade shall commence.

15. All work to be done by hand only. Unproportional coupling or any attachment to assist in breaking barred.

16. Running harness allowed.

17. No uniform or running suit other than a regulation track suit will be allowed. Any person or team violating this rule will be barred from that event.

18. Any person known to be a professional foot racer as defined under the A. A. U. rules shall not be permitted in the championship 100- and 200-yard dashes.

19. Any company attempting to win the prize by fraud, deception, foul play or in any dishonorable manner, or disobey, or infringe upon or invade any of the rules and regulations, will be subject to suspension from participation in that contest.

20. Any individual member of the Association who shall use profane or abusive language upon the track during the tournament shall be debarred from the track.

21. All entries must be in the hands of the Secretary of the Association thirty days before day of tournament, accompanied by a forfeit deposit of fifty dollars as a declartion of good faith. Said fifty dollars will be returned on team participating.

22. The Tournament Committee will specify the apparatus to be used, which shall be equipped as stated in the contest rules, but no unusual appliances of any kind will be permitted.

23. Captains or foremen of each team participating in the tournament will furnish the Secretary of the Association with a written roster of their respective teams at 9 o'clock a. m., on first day of tournament, accompanied by a certificate from the chief of department and certified to by the mayor or chief executive of the city or town to which the team belongs, showing a membership of at least sixty days in the department and a continuous residence of six months in the city or town previous to the tournament. At which time the team captains or managers will draw for place. Secretary of committee will draw number for any team not present at time of drawing.

24. In case of a tie between two or more teams or individuals for first, second or third prize, the teams or individuals making the time shall repeat the test in the order in which they started from the score, to decide which team or individual (if two are tied for first prize) is entitled to first and second prize. Or if three teams or individuals are tied for second prize, the run-off shall decide which team or individual is entitled to the second and third prize, and the third team or individual fourth. In case of a tie for third prize, they shall repeat the test as stated, to decide which team or individual is entitled to the third prize. Teams which are a tie in any test may divide the purse or purses if they so elect.

25. The rule of precedence shall govern in case of a second tie in the run-off for a prize, or in case of a tie for the championship trophy when unable to agree or run off the tie.

26. Only department members of the Colorado State Firemen's Association to compete for any prize.

27. All teams starts will be made with an automatic signal.

28. The rules of each tournament shall not be changed after official publication, and the Judges of Award are charged with their interpretation.

Rules for Hose Race.

(WET TEST.)

1. Each team shall consist of not more than eleven members, including the officer in charge, all of whom shall start from the score with wheels of apparatus resting on score. The score shall be kept free from obstructions of any kind.

2. The reel shall carry 250 feet of service hose, reeled on cart or jumper in one continuous line. The coupling intended for pipe may be made "catch" so as to be broken by hand or with spanner.

3. At the proper starting signal, the team shall run 400 feet to hydrant, make connection, reel off 200 feet of hose, break coupling and attach pipe. Time to be called when water issues through nozzle. Hydrant connection and pipe to remain connected until water is ordered turned off by the judges.

4. Plugman shall attach to hydrant, assisted by one man, if the company so elect, but the pipe must be carried from the starting point either on jumper or by pipeman. The hydrant shall be placed on the left of the track.

5. The officer in charge of the team may assist in any part of the test, but must start with the team.

6. The water works shall furnish fire pressure during the tests, and the cap of the hydrant to be used shall remain off. The hydrant wrench shall be in place on the hydrant before each team starts, and the pressure up to the least amount specified by the judges of award.

7. A mark across the track shall be placed fifty feet from the hydrant, and when this mark is reached, and not before, the plugman and his assistant may commence to unreel for the plug connection.

Rules for Hook and Ladder Race.

1. Each team shall consist of not more than fifteen members, including officer in charge, all of whom shall start from the score, with hind wheels of apparatus resting on line.

2. Trucks must be in same condition as when ready for ladder practice.

3. Team will run 500 feet, raise a 24-foot ladder, and man ascend to top; man to start from the ground at the foot of the ladder; time to be called as soon as he grasps (not merely touches) the top rung with either hand.

Championship Foot Race, 100 Yards.— Open to all departments complying with the A. A. U. rules. One entry to department.

Ladder-Climbing Contest.— One entry to department. Regulation 24-foot ladder to lay flat upon the ground, parallel with the track. Four men (two footers and two raisers) allowed to assist; two men to stand on each side of ladder, to raise ladder when signal is given, to an angle of not less than 45 degrees. Climber to run fifty feet to ladder; to start not higher than the third round. Time measured from start until top round is grasped (not merely touched) with either hand.

Speed Race for Teams.— Open to all departments, one entry to department. The run shall be 600 feet; time to be measured from drop of signal until wheels of apparatus cross the mark. Each team limited to eleven men, including officer in charge; hose cart to carry 250 feet of hose.

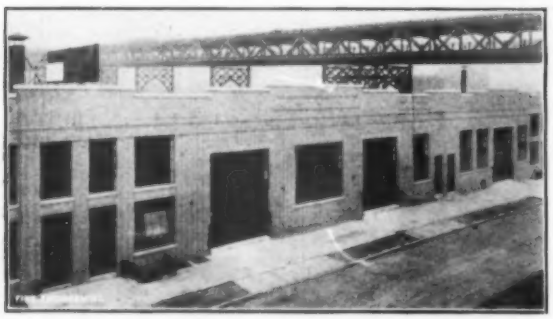
Hose Coupling Contest.— Open to all departments, one entry to

department. Each contestant shall run fifty feet, break coupling three or more full turns, put on pipe three full turns and drop to ground. Time to be measured from start until pipe hits ground. Pipe to be carried from start. Each contestant may furnish his own regulation equipment, and it will be permitted for couplings and pipe to be worked down.

Championship Foot Race, 200 Yards.—Open to all departments complying with the A. A. U. rules, one entry to department.

New American-LaFrance Service Station

A new and complete service station has been opened by the American-LaFrance Fire Engine Company, Elmira, N. Y., at Long Island City, close to the Queensboro Bridge connecting with Manhattan Borough, New York City. Originally two buildings were planned, one to be 60 ft. x 200 ft., the other to measure 85 ft. x 200 ft., but even this floor space was quickly found to be insufficient and a third building was added,



New American-LaFrance Service Station at Long Island City, N. Y.

measuring also 85 ft. x 200 ft., increasing the total floor space to 49,000 square feet.

One of the features of this service station is a stock room which contains a line of parts for both fire engines and commercial trucks.

In addition to the fire engine department and service station, space is occupied by the sundry sales department and the commercial truck sales department. The mezzanine floor is taken up by modern, well lighted offices, affording room for the clerical help as well as various executive offices.

Celebrates Golden Jubilee Year

The Eureka Fire Hose Manufacturing Company of New York has just celebrated its Golden Jubilee Year. The company was formed in 1875 as the Eureka Fire Hose Company, and since that time has been manufacturing fire hose and kindred equipment.

The first factory was in rented quarters at 23rd Street and 2nd Avenue, New York City. In 1882 a building at Henry and Cranberry Streets, Brooklyn, was purchased and the factory removed to it. In 1887 a factory was erected in Jersey City, and an addition was erected in 1892, the Brooklyn plant being disposed of at that time.

The Eureka Fire Hose Manufacturing Company maintains the largest factory in the world devoted entirely to the manufacture of fire hose and equipment which goes with it.

Mr. B. L. Stowe, who has been with the company since its formation, is president. The other officers are: Joseph H. Green, Vice President; N. F. McKeon, Secretary and Factory Manager; T. K. Felch, Treasurer and Assistant Secretary; and Clay G. Bellinger, Assistant Treasurer.

The ranks of the Eureka company are filled with veteran employees, many having been with the company for a quarter of a century or more.

Branch offices are maintained in the following cities:

Atlanta, P. O. Hebert, Southern Manager; Boston, F. E. Bensen, Manager; Chicago, G. F. Hand, Manager; Columbus, H. F. Pratt, Manager; Dallas, R. W. Joyner, Manager; Denver, J. Pearse, Manager; Detroit, H. H. Alvis, Manager; Kansas City, H. F. Gobert, Manager; Los Angeles, L. M. Gosney, Manager; Minneapolis, J. W. Dashiell, Manager; New York, F. E. Bensen, Manager; Philadelphia, J. A. Smith, Manager; Seattle, H. J. Wise, Manager; Syracuse, W. P. Burke, Manager.

Englewood, Col., Has New Fire Chief—E. Wilfred Hamlyn has been elected chief of the fire department at Englewood, Col. He succeeds Ralph Norton.

WINS SUIT AGAINST CITIZEN WHOSE CARELESSNESS CAUSED FIRE

Jury Decides He Must Pay Cost of Fire Department Services Amounting to $500—First Liability Suit of Kind

PROBABLY the first suit brought by a city to recover damages from a citizen who had neglected to obey the fire ordinance, resulting in a fire, was recently tried by a jury and won in Cincinnati, Ohio. The city ordinance relating to fire prevention reads:

"In the event of fire resulting directly or indirectly from any omission or neglect to properly comply with any written order of the chief of the fire department as provided in Sections 1026-3, 1026-4, 1026-5, and 1026-6, any such owner, lessee, occupant or person culpable or negligent in respect thereto shall be liable to the city of Cincinnati for the payment of all costs and expenses of the fire department incurred in and about the use of employes, apparatus and materials in the extinguishment of any fire resulting from such cause; the amount of such costs and expenses to be fixed by the director of public safety and to be collected by him in a civil action wherein the city of Cincinnati shall be plaintiff and the party culpable or negligent, as above set forth, shall be defendant."

The city proved by nine witnesses that the defendant had been notified on several occasions to comply with the fire prevention ordinance, but had refused to listen to the injunctions. When the fire occurred the firemen found doors and windows blocked so that they were prevented from gaining access to the burning building. The city showed that the flames were started by reason of rubbish which had accumulated at the foot of the stairs. The city was not called upon to prove the exact cause of the fire, but only to prove that the fire had started because the excelsior and floor sweepings at the bottom of the stairs had not been cleaned out as called for in the order.

The bill of particulars presented to the defendant was as follows: Eight companies one hour each, at $75 per hour, $600; two fire marshals, one hour each, at $25 per hour, $50; total $650. In making its decision the jury deducted $150 on account of salaries, and allowed the city the full amount of its claim with the exception of that ruled out by the judge. The charge was the same as the city charges for rendering help to outside municipalities. The jury composed of six men and six women, rendered a verdict in 20 minutes.

Hutsell, New Chief of Indianapolis

Jesse A. Hutsell has been appointed chief of the fire department at Indianapolis, Ind. Former Chief John J. O'Brien has been appointed battalion chief in charge of the high value district and he will also serve in an advisory capacity.

Horace W. Carey has been appointed chief of the fire prevention bureau and he will co-operate in the fire prevention program of the city.

Kenosha Fire Engine and Truck Co.

The Winther Motor Company, of Kenosha, Wis., has changed its name to Kenosha Fire Engine and Truck Company. The change of name is made to better indicate the nature of the company's products.

The change is in name only, according to the company, and there are no other changes involved, the corporate structure, management and officers of the company remaining the same as before.

The present company purchased for cash the plant in Kenosha about three years ago, and since then has specialized in fire engines although still maintaining its motor truck department.

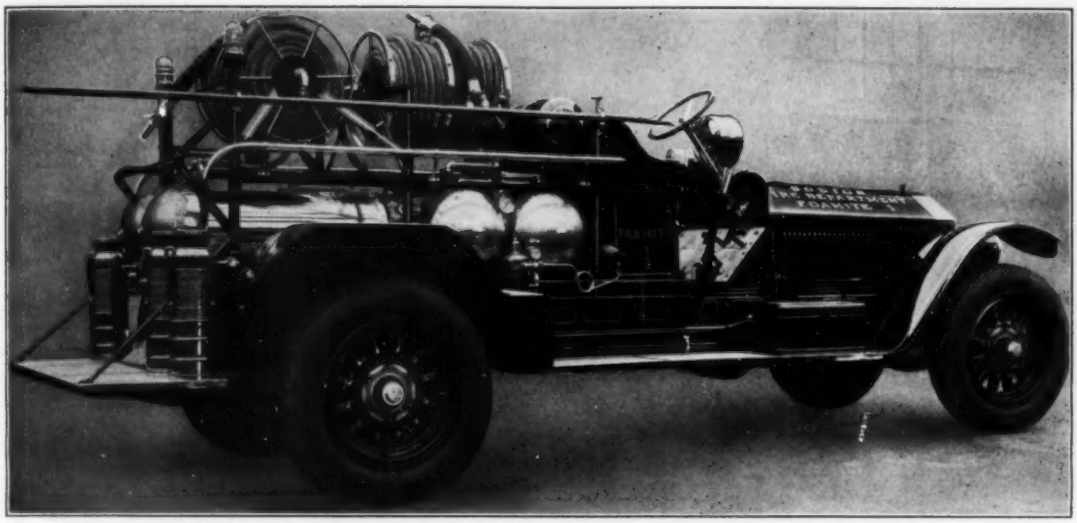
The preceding Winther Motor Truck Company had built a number of fire engines, some of which have been in service approximately 10 years. These were both rear-wheel drive and four-wheel drive models.

In the past two years the company has completely redesigned their fire engine models. Only six-cylinder motors are used in their fire equipment. The smallest is a 300-gallon outfit, and the larger ones are 400 gallons, 450 gallons, 500 gallons, 750 gallons and 1,000 gallons. All of these models are manufactured in varying lengths of wheel base, making them suitable for Double Combination. City Service Ladder Trucks or Tractors for aerial trucks as well as pumping engines.

Denver's Pension Fund—The county of Denver, Col., will receive nearly $41,000 as its share of the fund for firemen's pensions.

Ingraham, Pa., Elects Chief—A. V. Crawford has been elected chief of the fire department, at Ingram, Pa., and W. H. Siegfreid, assistant.

Memorial for Chief Crawley—Anniversary mass for the late Chief Joseph Crawley of New York fire department, was held January 12, at the Church of St. John, the Evangelist.



The new Foamite Chemical Equipment now in the service of the Boston Fire Department

Boston proves the value of her new *Foamite* Equipment

For fighting extra-hazardous fires of oil, gasoline, chemicals, etc.

In a recent test, Boston's new *Foamite* Chemical equipment strikingly demonstrated its ability to control the most hazardous types of fires.

A terrific blaze of gasoline, oil and grease was completely extinguished in less than 2 minutes.

After the test, the Boston Globe said that in the opinion of the Fire Commissioner and the Fire Chief this *Foamite* Equipment would prove "a valuable aid to the Department, as oil, even in dwelling and apartment houses, is coming into more use, and the danger there as well as in factory and other buildings is on the increase."

And Firefoam also controls ordinary fires more quickly—with less damage to property—than water or liquid chemicals'

Boston is the latest large city to adopt this modern protection. Baltimore, Los Angeles and Atlantic City already have these *Foamite* Equipments in service.

The Boston equipment carries four tanks whose combined capacity is about 1300 gallons of fire-smothering Firefoam. A special pressure cylinder gives a range of 50 feet from the nozzle.

The *Foamite* 40-gallon chemical tank units may be mounted separately or in combination—on any motor truck apparatus—in place of the familiar but less effective Soda-acid chemical tanks.

More than 600 Fire Departments are now using *Foamite* Equipment in one form or another. Write for details. At your request, a Foamite-Childs representative will call and demonstrate.

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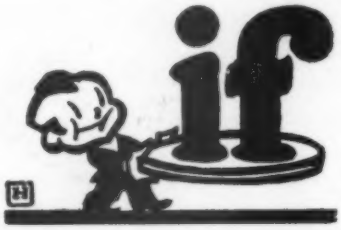
Over 65 gallons of gasoline and oil were floated on a pool of water, and ignited. The flames blazed 40 feet into the air. Then—

In less than 2 minutes the fire was completely smothered out. Proof enough of the value of Foamite *Chemical Equipment to any community!*

Foamite-Childs Protection

Against Fire



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HOW THE FIREMEN REMEMBERED THE CHILDREN AT CHRISTMAS

Some of the Outstanding Examples of Firemen's Generosity at the Yuletide Season—Numerous of the Poor Children Made Happy

THOSE of the opinion that firemen are self-centered individuals and have no thought for others outside of their daily work, would have done well to follow the activities of the members of fire departments in their spare time throughout the United States during the weeks previous to Christmas. A large number of the poorer children who are

Discarded and Worn-out Toys Collected by Various Agencies in Denver, Col., for Repair by the Firemen and for Redistribution to the Needy Children.

today fondling a doll, or playing with some gayly-painted toy have to thank the open-hearted natures of the firemen who have displayed their generosity in playing Santa Claus to the less fortunate children in the numerous cities.

The many who found it a great problem in financial manipulation to care for the children, cousins and relatives in his own family, will readily understand the Herculean task which the firemen undertook when they planned to provide for a community.

Work By Denver, Col., Firemen

In Denver, Col., about two thousand children who Santa Claus, in his haste might have forgotten, found full Christmas stockings due to the co-operation of the firemen and the Denver *Express*. Long before the holidays, collections were made in various parts of the city of books and toys that the children had outgrown or lost interest in, and they were distributed to the various five stations in the city. The mail carriers, churches and other agencies assisted in the collection of the broken toys.

At the fire stations, firemen skilled in the use of tools, rebuilt, repaired and redecorated the toys. The gee-gaws, resplendent in their bright, gaudy paint, rivalled the appearance of the new article. Many of the local lumber, hardware and paint concerns donated the material needed by the firemen for rejuvenating the toys.

The names of the needy children were obtained from welfare agencies, who assisted in assorting the toys for distribution two days prior to Christmas. Many toy autos, scooters, wagons, sleds, kiddie cars, doll buggies and wheel-barrows, all reflecting the sheen of their fresh paint, were included in the gifts which were distributed.

Fall River Men Act as Santa Claus

In Fall River, Mass., under the guidance of Chief J. F. Sullivan, veritable Santa Claus' workshops were installed in stations 3, 6 and 8 for the construction of playthings to amuse the young ones. The large amount of toys manufactured was proof of the industry of the men during the period preceeding Christmas.

Chief Sullivan, in discussing this work accomplished by his men, said, "During the past year there has been a lot of suffering among the poor of Fall River and the firemen in a period of four months contributed $3,500 to the local charities. I suggested the plan of a weekly contribution from each member of the department and, although most of the firemen were married and had families, the holiday spirit they showed was wonderful. We took up special Christmas collections and gave it to the local newspapers which played Santa Claus to thousands of needy children. Some of the toys that the boys made were given to the poor; others were presented to their own children or to children of friends."

Brockton Distributes Toys

In Bockton, Mass., under the charge of Chief William F. Daley, the press, school and churches urged the people to bring all worn out toys to the central fire station early in December—the appeal resulted in thousands of playthings being brought to firemen for repair and redistribution.

Quincy, Mass., Firemen Have Tree for Children

The firemen of Quincy, Mass., worked in another channel. The firemen, acting upon the suggestion of Chief Alfred L. Mead, erected a large Christmas tree in the yard adjacent to the fire station. Arrangements were made with the street railway company to provide free transportation for the children who came to the firemen's party. The gifts which were distributed at this party included warm clothing, mittens and candy. Many of the local merchants contributed gifts for distribution to more than three hundred children. The arrangements were in charge of a committee from the Quincy Permanent Firemen's Association.

A Christmas Tree Also at Braintree

A tree was erected on the playground of the Noah Torrey School District in Braintree, Mass. One of the firemen masqueraded as Santa Claus and presented articles to the children which included toys, candy and fruit. Chief Tenney was called to the tree and presented with a gold watch by the members of the fire department.

Oskaloosa Men Turn Sewing Machines Into Lathes to Make Presents

The firemen of Oskaloosa, Ia., resurrected some old sewing machines and converted them into lathes. From scraps of lumber, they turned out handsome candle sticks, table and floor

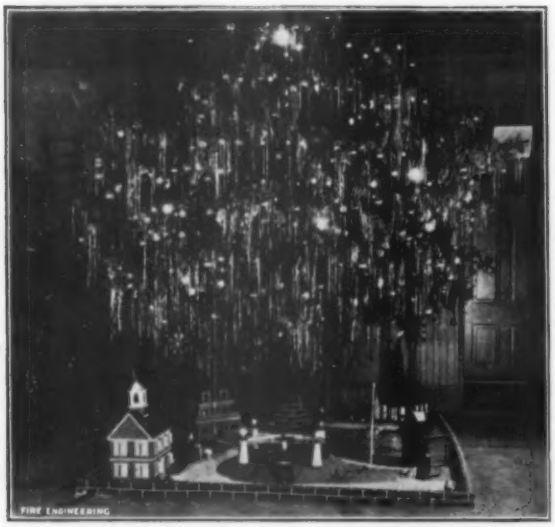
Upper—Lieut. F. C. Bell of Brockton, Mass., with Some of the Toys Which the Fire Department Distributed. Lower—Chief Sullivan of Fall River, Mass., on Right and the Men from Hose 3 and 6 with Toys They Made for Holiday Gifts.

lamps and countless other articles. Their handicraft made excellent articles for presentation at Christmas time.

Firemen Distribute Presents at Reading, Pa.

In Reading, Pa., the various fire companies under the leadership of Chief John G. Niethammer, distributed presents to about 9,000 children of the city and the various homes and orphanages. A committee from the Friendship committee scouted in the nearby mountains for the largest Christmas tree that they could find and then dragged it for more than a mile before they could load it on a waiting truck. When they reached the fire house, it was found that the tree had to be trimmed before it could be erected inside of the station. About 1,500 children received presents from the firemen at their party.

The Junior fire company distributed gifts to the Home of the Friendless Children and the St. Catherine's Orphanage. The Neversink fire company held a party in their station for the children in their section of the city. Nothing was overlooked to make the party complete, from the corpulent Santa



Christmas Tree in Rainbow Fire Station, Reading, Pa.

Claus down. Due to the generosity of the firemen, there were few children in the city who failed to be remembered at the Yuletide season.

Sufficient evidence has been presented to show the credulous and skeptical that firemen have big hearts and that a large number of adults as well as children, in saying their nightly prayers, have had reason to offer thanks for the generosity of the firemanic fraternity during the Christmas season past.

Two Fires in Pittsburgh Warehouse

(*Continued from page 29*)

sent in the second alarm at 6:10 a. m., from Station 39, which alarm was answered by Engine Companies No. 43, 42 and 45 and Truck Company No. 46, Chief of Department M. F. Shanahan and Deputy Chief Frank C. Loxterman.

The third alarm and a special call sent in at 6:33 a. m., under the direction of Chief Shanahan brought to the scene of the fire, Engine Companies No. 1, 7, 33, 48, 49, 50, Hose Company No. 52 and Truck Company No. 45.

Fanned by a brisk wind from the Ohio and Allegheny Rivers the flames quickly spread throughout the entire building and within three-quarters of an hour it was entirely involved.

At least thirty separate and distinct explosions occurred when large quantities of alcohol, paints and oils ignited and exploded, the burning alcohol going up into the heavens, spreading out and coming down into the streets among the fire-fighters like a rain of liquid fire. One heavy explosion while the fire was at its height threw parts of brass and iron beds, red hot, which were stored in the building high in the air, some of which fell into the street among the firemen.

At 7:15 a. m. the west or rear wall of the building fell outward and tons of brick and wreckage fell on five automobile trucks loaded with 200 tanks of ammonia and onto two wagons that had been placed in an empty lot in the rear of the building.

About fifteen minutes later the south wall buckled and fell. About ten firemen who were standing on the Baltimore and Ohio Railroad tracks near the south wall directing streams into the burning building started to run when the bricks started to fall. Several firemen were struck by bricks but remained on duty. Within two hours after the fire started most of the walls had collapsed and the contents of the building had crashed through to the basement a mass of fire.

The crew of Truck No. 47, who were working on the roof of a one story building adjoining the main building, directing a stream into the center of the fire had a narrow escape from death or serious injury when a large illuminated electric sign board on the roof of the main warehouse facing Galveston Avenue, began to lean outward and fell, pushing the south wall of the main building out onto the roof of the one story building where the Truck crew had just a moment before been standing, crushing the one story building to the ground. Lieut. McDermott had just ordered the crew to a place of safety when the crash took place.

Chief Shanahan ordered the east or front wall of the building torn down while the fire was in progress as it threatened to topple into the street at any moment. Powerful high pressure streams from the deluge wagon were centered on the dangerous wall and it soon crashed to the ground.

Chief Surgeon Daniel E. Sable and Thomas Clark, his assistant, responded to the second alarm and established an emergency hospital in a patrol wagon.

Chief Shanahan and some other firemen were standing on the front wall which was broken off at the second floor of the structure when it was decided to cut the cable to permit the firemen to fight the fire to better advantage. As the cable snapped like a whip, one end of it struck a fireman lacerating his forehead. This was the only accident to firemen on duty at the fire.

The large deluge combination water tower and turret wagon of Engine Company No. 1 answering on the third alarm performed an effective piece of fire-fighting in front of the burning building. Shortly after being placed into service the two powerful turret streams and the water tower stream soon drove the fire back into the burning building and later knocked down portions of the front wall which were in a dangerous condition. A 1½ inch stream was used on the tower nozzle and one and seven-sixteenth streams used from both of the turrets. Pressure was furnished through eight lines of hose. one 2½ inch line from Engine No. 1 at 240 pounds pump pressure and one 2½ inch line from Pumper No. 41 at 160 pounds pump pressure both lines being siamesed into a three inch line into the wagon. One 2½ inch line from Pumper No. 7 at 200 pounds pump pressure and one 2½ inch line from Engine No. 47 at 220 pounds pump pressure both of these lines being siamesed into a three inch line into the wagon and four single 2½ inch lines connected to the wagon, one from Pumper No. 33 at 250 pounds pump pressure, one from Engine No. 1 at 240 pounds pump pressure, one from Engine No. 44 at 180 pounds pump pressure and one from Pumper No. 41 at 160 pounds pump pressure.

Before the crew of the wagon could get their apparatus into service they had to move a lumber pile which was piled up on Galveston Avenue with other building material being used in the construction of the Standard Sanitary Companies new warehouse adjoining the burning building on the north.

In extinguishing the fire seventeen engine and pumper streams were used including the water tower and two turret streams from the deluge wagon, 100 feet of 3 inch hose, 11,150 feet of 2½-inch hose and 250 feet of 1 inch lead line hose all cotton rubber lined and 330 feet of ladders. Shut off nozzles with 1⅛ and 1¼ tips were used on all street lines.

Twenty-one pieces of fire apparatus all motor driven and tractor drawn were in service at the second fire as follows:

Approximately ten Ludlow fire hydrants with 4½-inch single and doubble outlets were available for use at the fire with pressures on hydrants ranging from 85 to 100 pounds which furnished the firemen with a good supply of water with which to fight the fire.

Owing to the distance of some of the fire hydrants from the fire, Engine Company No 45 and Hose Company No. 52 had to double up their hose into one line 1450 feet long in order to reach the fire, the line being connected to Engine No. 1. Six sections of 2½-inch hose burst during the fire.

The duration of the fire was thirteen hours and twenty minutes being struck out at 5:23 p. m. A detail of firemen were kept on duty with several streams for a couple of days playing on the ruins to guard against any fresh outbreak of the flames.

The burned building which fronted on Galveston Avenue, 150 feet and extended back a distance of 150 feet to the Baltimore

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MAKE it safe and easy for the men to go right into the seat of the fire by providing them with **"Dontfear" Respirators.**

These respirators are light, and easily adjusted. They have renewable canisters; the canisters containing ingredients that neutralize all smoke fumes.

Face cushion is of pure para gum, and needs no inflating. Much lighter in weight than gas masks, and weigh no more than any sponge-type respirator.

Your men deserve the protection which the **"Dontfear"** Respirator affords; and your city will profit through the much more effective work the men will be able to perform.

The price of the **"Dontfear"** Respirator is $5.00 complete in metal container and with one extra cartridge. Extra cartridges $3.00 a carton of ten. Goggles, $1 extra.

Gibbs-Wahlert Mask Co.
386 Jay St., Opp. Fire H'q'trs.
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SMOKE AND FUME RESPIRATOR

New Jaeger Portable Pumper

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provides adequate fire protection at a fraction of the cost of big apparatus, and is ideal for small towns and communities.

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Wilmington Brass Co., Wilmington, Del.

and Ohio Railroad yards was an old brick structure built many years ago with wooden joists and floors supported on structural steel beams and columns which had no protection of any kind against fire. The building was formerly used as a factory building and in later years was turned into a storage warehouse. The building had no private fire protection of any kind. Several different business concerns had storage space in the building.

A considerable amount of carbide in cans which was stored in a small one-story concrete building located at the end of a loading platform at the rear of the burning building was removed from the floor to a place of safety by firemen when water from the streams pouring into the burning structure began to flow into the building in which the carbide was stored.

University of Illinois Course

(*Continued from page* 16)

thought he reduced that to thirty days and gave him the time he had already served, which made it only a day or two he had to serve.

Cause for Discouragement

That is what we are confronted with. Do you wonder why we get discouraged? That is some of the work of the fire marshal and his deputies. That is only one of the many instances that we have to contend with, so we get pretty thoroughly discouraged.

Whenever we can get a state's attorney or court willing to cooperate with us, we go in and try to get conviction, but even in cases where we have had confessions and they were read to the jury, the fellow has been found not guilty simply because he was a member of some good secret society the court belonged to or some member of the jury belonged to.

We had one a short time ago where a man was away up in a certain order, and we were confronted with the fact that the judge belonged to the same order, the state's attorney belonged to the same order, and the sheriff belonged to the same order, so what chance do you think we had? We finally got a plea of guilty from the defendant with an understanding he would surrender his insurance policy, make no claim, pay a fine of $1,000 and stay out of the state of Illinois for a period of ten years. That is one way we have of getting rid of them.

(*To be continued*)

Fire Losses of Two Weeks

(*Continued from page* 30)

WEST FRANKFORT, ILL.—Five business houses..... 145
EVANSVILLE, IND.—Grist mill and elevator of W. M. Erwin. 48
PENSACOLA, FLA.—Church and two houses in colored section 15
NUTLEY, N. J.—Grace Episcopal Church..... 95
ORANGE, CON.—Mansion of A. T. Terrell..... 48
EGYPT, MASS.—Post office..... 10
SO. BOSTON, MASS.—Two city blocks which included Garland Hotel, Edmondson tobacco warehouse, a bank and a dozen mercantile buildings.....1000
WHITE HORSE, PA.—Home and general store of B. G. Weiler 12
READING, PA.—Flour mill of A. Wagner and O. A. Stitzil.. 18
QUAKERTOWN, PA.—Bank barn on Ely Fretz farm..... 10
LINWOOD HEIGHTS, PA.—Barn on Poulson estate..... 18
ATOKA, OKLA.—Courthouse 135
GARFIELD, N. J.—Garage and showrooms of Schlegel Auto Sales Co. 18
BATAVIA, N. Y.—Three barns of A. J. Craft..... 12
PORTLAND POINT, N. Y.—Stock house of Cayuga Operating Co. damaged 190
SWEET SPRINGS, MO.—Colonnade Hotel and adjoining furniture store 18
ST. PAUL, MINN.—Hamline Methodist Episcopal Church.... 62
PINEVILLE, KY.—Stock of goods of Faulkner Garment Co. damaged 10
GRIMES, IA.—Bank and cafe damaged. Cause, explosion of oil stove 12
NEVADA, IA.—Nevada Hotel 18
EVERETT, MASS.—St. Joseph's French Catholic Church damaged 12
HAVERHILL, MASS.—Two buildings in business district.... 450

From reports covering the United States and Canada, the estimated losses of fire during the weeks ending January 10, 1926 aggregated $8,985,900, as compared with $6,903,450 for the corresponding week in 1925:

OLAR, S. C.—Four stores in business section..... 20
BERGENFIELD, N. J.—A. J. Muller Lumber Yard partly destroyed 145
FLEMINGTON, N. J.—Flemington Baptist Church..... 95
HUNTINGTON, W. VA.—Garage and nine busses and touring cars of Westova Transit Co..... 38
LEHIGHTON, PA.—Allen T. Kreidler's shoe and clothing store damaged 12
HICKORY, N. C.—Finishing and packing departments of Martin Furniture Co. 125
MENA, MICH.—Residence of M. A. Stratton 45
GRAND RAPIDS, MICH.—South Division Ave. School..... 18
STOUGHTON, MASS.—House, barn and contents of J. Sadon 10
HOPKINSVILLE, KY.—Mogul Wagon Works and church furniture factory of Forbes Mfg. Co..... 450
FAIRMOUNT, IND.—Home of Wm. M. Jones..... 10
CARBON, IND.—Kalamazoo Clay Co.'s plant..... 10
MARION, ILL.—Marion Courthouse square damaged..... 45
GOLDEN, ILL.—Three business houses..... 70
WILLISTON, N. D.—Johnson hardware store, W. G. Owens' law office and five large family apartments in business districts 145
BOSTON, MASS.—Graves house, used as dormitory at Tufts College 10
FITCHBURG, MASS.—Myer Dana block..... 18
LAKE CITY, S. C.—Tobacco warehouse of M. K. Gravely Co. with pack houses, prize houses and livery stables of Stuckey Live Stock Co..... 70
ASHEVILLE, N. C.—Four buildings in wholesale district.... 490
RED BLUFF, S. C.—Dwelling of Dr. A. G. Busknew..... 30
SUMMIT, N. J.—Interior of Turkey Hill tea room and boarding house damaged..... 10
HARRISON, MICH.—Restaurant of Mrs. H. B. Jones, Masonic temple and several other business places..... 23
CLEVELAND, OHIO—Plant of Wm. Moore Co., general contractors 45
TORONTO, ONT.—Garage at Croft street damaged..... 10
SACO, ME.—Dwelling at Elm street damaged..... 10
WILMINGTON, N. C.—First Presbyterian Church, Anniversary Hall and manse..... 145
PENSACOLA, FLA.—Newport Tar and Turpentine Co. damaged 190
CAMDEN, N. J.—Two buildings of Gwilliam Mfgr. Co. practically destroyed 70
SYRACUSE, N. Y.—Two-story building on Salina street..... 10
REEDVILLE, PA.—Masonic building destroyed..... 13
COLUMBUS, MIS.—Plants of Columbus Ice Cream & Creamery Company and machine shops of F. M. Jacob partly destroyed 75
COLUMBUS, GA.—Business house and adjoining annex partly destroyed 195
LAWRENCE, MASS.—Warehouse of Pill Brothers..... 45
WINDSOR LOCKS, CONN.—Farm buildings of John Thonapson 18
SOUTH BEND, IND.—Cold storage plant of Armour Packing Co. 95
RAEFORD, N. C.—Part of business block, destroyed..... 145
TULSA, OKLA.—Tulsa Cottonseed Oil Company..... 195
READING, PA.—Plant of Paul B. Hendel Company, destroyed 245
CLYMER, PA.—Houck block 70
PALMER, TEXAS—Residence owned by Mrs. Drucilla Haug, destroyed 10
RICHFIELD, PA.—Dwellings, garage, barns and outbuildings, destroyed 95
WILKES-BARRE, PA.—Furniture store of John Kaschenbach 18
JOHNSTOWN, PA.—Replogle Storage & Transfer Co. plant, destroyed 145
ALLENTOWN, PA.—Idlewild Hotel on Lehigh mountain, destroyed 23
LAKE CITY, FLA.—Hart Cottage Warehouse, destroyed..... 350
CLAYSVILLE, PA.—Plant of Penn Bridge Company..... 500
CHARLESTON, S. C.—Buildings of Merchants' Fertilizer & Phosphate Co., destroyed..... 285
LORAINE, TEXAS—Business buildings 48
DALLAS, TEXAS—Prince Drug Company 10
MERTON, WISC.—Plant of Park River Canning Company, destroyed 38
NEW BERLIN, N. Y.—Feed mill of Beardsley & Sisson, destroyed 40
LOWVILLE, N. Y.—Dwelling, barn and out-buildings of Ed. Britton, destroyed 10
WATERTOWN, N. Y.—Cahill Sporting Goods Store..... 12
GREENWICH, CONN.—Chester Inn 50
BERNE, PA.—Flour and feed mill of A. Wagner, destroyed.. 20
CANONSBURG, PA.—Property of Standard Chemical Company destroyed 85
LOWVILLE, N. Y.—Stables and several horses of Levicker Bros. destroyed 15
BELLEFONT, DEL.—Dwelling of H. C. McCaie destroyed.... 10
HARLAN, KY.—Carter Building and adj. Palace Garage..... 110
EVANSVILLE, IND.—Frame residence of W. B. Reinhardt 10
CLARE, MICH.—Dept. Store and Shoe Co. destroyed..... 95
CROOKSTON, MINN.—Property owned by Livestock Ass'n... 10
READING, PA.—Adelphia Hotel and Restaurant..... 25
PHILADELPHIA, PA.—Altar of Catholic Church of Our Lady of the Eternal..... 10
CLYMER, PA.—Houck Block on Franklin Street destroyed.. 70
ROBERVAL, QUE.—Berube Hotel destroyed..... 10
HAZEL GREEN, WISC.—Mill property..... 10
GREENBELL, N. J.—Barn containing crops, E. L. Thompson, owner 30
DOUDS, IOWA—Business district 35
LAKEFIELD, MINN.—Store of L. D. Stewart destroyed..... 10
GRAND ISLAND, NEBR.—Piggly Wiggly Stose and adj. property 20
CORDOVA, WASH.—Business district 35
TORONTO, ONT.—Building at 226 Bay Street..... 40
OGDENSBURG, N. Y.—National Bank Building..... 45
OCEAN CITY, MD.—Boardwalk property of Atlantic Hotel, Electric Plant, City pier, Casino, Seaside Hotel, Candyland, Reed's Restaurant and cottage of C. W. Purcell.... 295
BALTIMORE, MD.—Grain warehouse of E. Steen & Brother.. 990
BOSTON, MASS.—Six-story bldg. at 40-42 Fulton St..... 60

Fire Alarm Notes

Pennsburg, Pa., Receives New Siren—A new siren which will be mounted on the roof of the fire station, was purchased for Pennsburg, Pa.

Gloversville, N. Y., Installs New Equipment—A new switchboard, motor and generator, was installed in Gloversville, N. Y.

Boston Opens New System—The new fire alarm system in the Fenway of Boston, Mass., was officially opened by the fire commissioner's aide pulling box 23-28.

Carthage, Ill., to Erect Fire Siren—A fire siren will be installed in Carthage, Ill., to replace the large bell which is in use at present.

Chatham, N. Y., Orders Siren—The village trustees of Chatham, N. Y., have ordered an electric fire siren which will be placed on the new fire station.

Sound Beach, Conn., to Install Fire Alarm—The Sound Beach, Conn., fire department voted to purchase new equipment for the fire alarm system consisting of batteries, switchboard, and a four-circuit repeater.

Mt. Morris, N. Y., Adopts Test System—In order to test out the fire alarm system at Mount Morris, N. Y., a plan has been adopted whereby an alarm will be sent in from a different box each Saturday morning. The city decided to profit from the experience of Dansville when the alarm system refused to work properly and resulted in a large fire loss.

Attleboro, Mass., Installs New Fire Alarm System—A new fire alarm system has been installed in Attleboro, Mass., so designed as to take care of the city's needs for the next twenty years. The work was financed by a $6,000 appropriation. Joseph Newcomb, fire alarm superintendent, is well pleased with the new equipment.

Fire Essay in Braille Wins Prize

A blind boy writing the essay in Braille, the system of writing which is read by moving the fingers over raised surfaces, was awarded the gold medal presented by the Newark Safety Council for the best essay on fire prevention. The medal was awarded by Frederick Hodley, secretary of the American Insurance Company, in the presence of the school assembly at the Washington Street School, of which George Burke, the prize winner, was a student.

$250 for Your Fire Relief Association

The Gamewell Company of Newton Upper Falls, Massachusetts, manufacturers of fire alarm and police signal systems is conducting a very unique contest which will result in accomplishment of good in more than one way.

In order to secure information on the effectiveness of fire alarm systems or on the ineffectiveness of telephones or other means for transmitting alarms, they are offering two prizes of $250 each and an unlimited number of small prizes consisting of safety razors.

The first two prizes are to be given to Firemen's Relief clipping or official report of a fire where the use of a fire alarm telegraph system saved life or property.

The second $250 prize will be offered for the best news clipping or official report of a fire where a delayed alarm could have been prevented by the prompt use of the fire alarm telegraph system.

To those who send in reports of other interesting fires from the fire alarm standpoint, and who do not receive either of the first two prizes, will be given a Gillette safety razor.

The first two prizes are to be given to Firemen's Relief Associations through the winners of the contest. In other words the individual who sends in the prize winning items will designate the association to which the $250.00 will be given.

In the case of safety razors, these razors will be given to all who send in reports of interesting fires and are of course for the use of the individual reporting the fire.

This contest will do two things: it will help two relief associations and at the same time will bring forceably to mind the danger of transmitting alarms by other than fire alarm signalling systems.

The contest closes on September 20th.

All clippings or stories should be sent to the Contest Department, The Gamewell Company, Newton Upper Falls, Mass.

PROPOSED IMPROVEMENTS

Torrance, Los Angeles Co. Cal—Bids will be received until January 18 by A. H. Bartlott, city clerk, for furnishing 1,000 feet of double jacket, 2½-inch fire hose.

Osakis, Douglas Co., Minn.—Bids will be received until January 25 by C. G. Millard, re order, for one electric siren, 5 h.p., 60 cycle, three phase, 220 volt, A. C., with master magnetic switch, one remote control, without installation.

Lake Crystal, Blue Earth Co., Minn.—Bids will be received until January 27, by the council for fire equipment apparatus same to be mounted on chassis furnished by city. Bids will also be received on January 25 for furnishing a truck chassis on which will be mounted fire equipment.

Grand Island, Nebr.—Bids will be received until February 3rd by the city council for furnishing a triple combination car of not less than 750-gallon capacity. Bids will also be received on the same date for furnishing 500 ft. of double jacket fire hose; f.o.b. Grand Island, Nebr.

Anniston, Calhoun Co. Ala.—Considering purchase of fire apparatus and possibly erection of new fire station as well as installation of fire alarm system.

Richmond, McHenry Co., Ill.—Recent bad fire brought to fore matter of purchase of fire apparatus.

Birmingham, Ala..—Site purchased for erection of new fire station.

Iowa City, Johnston Co., Ia.—Chamber of Commerce considering move to urge purchase of new fire apparatus.

Englewood, Bergen Co., N. J.—Ground broken for construction of new fire station which will cost $80,000.

San Francisco, Cal.—Plans being prepared for the erection of a new fire station estimated to cost $35,000.

Wewoka, Seminole Co., Okla.—City will vote on $20,000 bond issue for fire apparatus purchase.

North Bend, Coos Co. Ore.—Purchase of 1,000 feet of fire hose authorized.

Sonora, Tuolumne Co., Calif.—Committees appointed to investigate problem of installation of fire alarm system.

Redwood City, San Mateo Co., Calif.—Report of Chief Mark Ryan includes recommendation of purchase of pumper, employment of additional firemen and construction of additional fire station.

Richmond, Wayne Co., Ind.—City planning $100,000 bond issue for fire department improvements; work includes three new fire companies and fire apparatus and equipment for a fourth.

Spokane, Spokane Co., Wash.—Plans to be drawn for construction of new fire station. Building of fire station to start soon..

Bellingham, Whatcom Co., Wash.—City in favor of issuing $75,000 bonds for better fire protection.

Philadelphia, Penn.—Bids will be taken soon for construction of new fire station.

Decatur, Macon Co., Ill.—Following recent bad fire, mayor stated that city needs 1,000-gal. pumper.

Lucasville, Scioto Co., Ohio—Valley township trustees considering means of better fire protection. Arthur S. Moulton and J. H. Brant, members of committee.

Martins Ferry, Belmont Co., Ohio—Survey of fire department equipment revealed that department lacks fire hose.

Warehouse Point, Hartford Co. Conn.—Recent fire brought to people's attention need of fire protection.

Miami, Dade Co. Fla.—Considering protection to docks and warehouses fronting harbor.

Truman, Martin Co. Minn.—Considering better fire alarms system for town.

Clarissa, Todd Co. Minn.—Contemplating purchase of community fire apparatus. Soliciting funds.

St. Petersburg, Pinellas Co. Fla.—New fire station opened; plans made for expansion of fire department.

Erie, Erie Co. Pa.—Considering floating bond issue to finance construction of new fire station.

Milwaukee, Wis.—Provision made in 1926 budget for construction of three new fire stations not to exceed $120,000.

Le Mars, Plymouth Co. Iowa—Rural Community about city considering problem of better fire protection.

Guthrie Center, Guthrie Co. Iowa—Considering erection of new fire station.

Oaklyn, Camden Co. N. J.—Company being organized in Bottlewood section of Haddon township. O. Preible is president.

Trenton, Mercer Co. N. J.—Site purchased for new fire headquarters.

Bethlehem, Northampton Co. Penn.—Considering erection of fire station in south side of city.

Newport Beach, Orange Co. Calif.—A bond election of $30,000 be submitted to the veters of this city at the next general election to build a fire hall and buy new equipment was recommended.

Fire Apparatus Wanted

The City of Fayetteville, North Carolina, will receive bids until 8 p. m., January 25th, for a Standard City Service Motor Truck, fully equipped with ladders, chemical tanks and life saving nets.

The right is reserved to reject any and all bids. (Signed) City of Fayetteville, by The Fire Committee: Wm. M. Morgan, J. D. Jones, J. P. Lee. 1-10

Salesman-Manager Wanted

Old and well established Chicago manufacturer has position open for man experienced in selling fire apparatus or similar equipment to cities and municipalities. Must be capable of qualifying as departmental sales manager.

In your reply give address, age, with whom now and previously employed, exact description of former duties, salary earned, etc. All replies strictly confidential. Address: Box 114 % FIRE & WATER ENGINEERING, 225 W. 34th St., N. Y. C. 12-23TF

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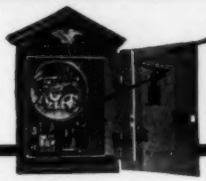

FIRE!

The cry at night that brings the "smoke eaters" on the run.

Get the word to them quickly and accurately. Delays in transmitting calls may result in the loss of lives and thousands of dollars property.

If your box brings the firemen only three minutes quicker—then it has paid for itself in the loss it has saved. Think it over!

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Aluminum shell-positive insulation—quick action door. Improved shunt switch. Sixteen round succession, non-interfering.

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Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening. Opens from driver's seat or from floor. Many repeat orders from users.

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Worcester Fire Alarm Signal is made upon designs that have proven true by years of actual use. You can count on our long experience, always at your service.

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The Boots are extra large at top. High flexible upper. Re-enforced at all points of strain. Extra heavy sole with Non-slip feature. No nails in shoe.

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are absolutely waterproof and are armored with a surplus rubber. They are used by large fire departments and salvage corps throughout the country.

We have prepared a little booklet describing the merits of our salvage covers. A copy will be sent to you upon request.

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AMERICAN FIRE EQUIPMENT CO. UNIVERSAL BOSTON, MASS.

Complete with useful information for fire fighters.

AMERICAN FIRE EQUIPMENT CO.
Successor to New England Fire Appliance Co.
9 Broad St. : Boston, Mass.

How Many Fire Alarms a Year?

Is your fire alarm system adequate to the important task assigned to it? The security of life and property from destruction by fire depends in large measure on its efficiency.

Defects in the fire alarm system are less apparent than defects in other branches of the fire service. When central station equipment is deficient or where there are not enough, or poorly located street boxes, these defects are all too often considered secondary to the need for other fire equipment.

A somewhat rough but very ready way to measure the adequacy of the system is to consider the number of fire alarms a year in the light of the following principles of fire alarm practice. For towns and cities where the number of alarms is less than 300 a year an "automatic" system will be good enough. If over 300, more supervision being required, one man must be constantly on duty at fire alarm headquarters to supervise apparatus and handle alarms. For more than 600 fire calls a year the operation of the system should be "manual," with at least two men always on duty. Apparatus, too, must be adequate to handle whatever number of alarms in excess of 600 there may be. Your fire chief or fire alarm superintendent can tell you the number of alarms last year. The figure should include every fire call, however originating.

If you find over 300 alarms and the system is of the "automatic" type, without a man on duty, or if over 600 alarms with an "automatic" or "semi-automatic" system, you have immediate evidence that the equipment is below standard, and that a detailed survey of the system is warranted.

This rough measurement, while a valuable guide, is not complete, especially in the larger cities where the systems are already of the "manual" type. A supplementary investigation can be readily made by traversing typical sections of your city, including outlying districts as well as the more built-up sections. Note where the fire alarm boxes are located and judge if these are reasonably convenient to every house. Are there boxes near the more important buildings?

Both of these features—central station apparatus, and boxes—should be investigated. It is important, however, to judge the adequacy of the central station alone, for, if the central station is of an inferior type, the additional alarm boxes necessary to bring the system up to standard cannot be installed because the central station has not the apparatus to take care of these additions.

The fire alarm service, in whatever form it may exist, always has been, and will continue to be, a most vital link in the fire system. Your Fire Department may boast the best of apparatus, the best of men, and plenty of water, but unless the department is called, and promptly, it can do little to save property and lives. Wooden construction predominates in most cities of North America. Any fire chief will tell you that the fire department's ability to prevent sweeping fires depends on getting to a fire when it is small. General alarm fires and conflagrations are the almost inevitable result of delay in discovering a fire and in reporting it to headquarters.

Your citizens need and deserve the best protection, which an adequate fire alarm system makes possible. Because of the important function of the fire alarm, the survey of the present system should be made only by competent and experienced fire alarm engineers. Apparatus should be purchased only from a responsible and experienced manufacturer. Its installation, too, is not a job for an ordinary electrician. A fire alarm telegraph system should be designed, built, installed, and maintained only by persons who fully appreciate the importance of its proper operation and the serious consequences of its failure.—*N. F. P. A. Bulletin.*

Alliance, Neb., Planning for Firemen's Convention—Alliance, Neb., is making plans to entertain the large number of delegates who will attend the convention of the Nebraska firemen which will meet on January 19 and continue to the 21st. Governor McMullen will attend the gathering on the closing day.

New Apparatus for E. Moline, Ill.—The fire department at East Moline, Ill., will have two new pieces of fire apparatus—they have purchased a Peter Pirsch apparatus mounted on a Winthers chassis and a Winthers truck on which will be mounted the old apparatus.

Ft. Dodge, Ia., Improved Department—About $25,000 has been spent by Fort Dodge, Ia., to bring the fire department up to the standard demanded by the Iowa Service Insurance Bureau These improvements include the purchase of a new touring car, a pumper, additional hose, the installation of a new fire alarm system and the erection of a drill tower.

Firemen's Presence Prevents Theatre Panic—The presence of District Chief J. J. King and a fireman prevented a panic in a motion picture theatre in Lawrence, Mass., when a reel of motion picture film caught on fire in the operator's booth. The firemen calmed the audience and prevented a stampede for the exits.

CONVENTION DATES

Jan. 12-14, 1926—ILLINOIS FIREMEN'S ASSOCIATION, 38th Annual Convention, Kewanee, Ill. Secretary, Roy W. Alsip, Champaign, Ill.

Jan. 19-21—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 4th Annual Convention, Alliance, Neb. Secretary, H. A. Webbert, Kearney, Neb.

May 10-13—NATIONAL FIRE PROTECTION ASSOCIATION (International). 30th Annual Meeting, Atlantic City, N. J. Secretary, Franklin H. Wentworth, 40 Central St., Boston, Mass.

April 1—INDIANA FIREMEN'S ASSOCIATION. Annual Convention, (tentative date, week of April 1). Marion, Ind. Secretary, Frank H. Miller, Fire Headquarters, Terre Haute, Ind.

June 8-10—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 37th Annual Convention, Port Jervis, N. Y. Secretary, Chief Chris W. Noll, Fire Department, Poughkeepsie, N. Y.

June 9-11—MARYLAND STATE FIREMEN'S ASSOCIATION. 34th Annual Convention, Westminster, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 22-24, 1926—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS—Fourth Annual Convention, Hotel Carpenter, Corner Merrimack and Franklin Sts., Manchester, N. H. Exhibit Hall, New Hampshire State Armory. Secretary, Chief John W. O'Hearn, Watertown, Mass. Chairman, Exhibit Com., Chief Henry H. Heitman, Waterbury, Conn.

July 14—DELAWARE STATE VOLUNTEER FIREMEN'S ASSOCIATION. 6th Annual Convention, New Castle, New Castle County, Del. Secretary, Sam H. Carson, Dover. President, Geo. Clifton Maull, Lewes.

Aug. 17-19—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 55th Annual Convention, Alexandria Bay, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Sept.—KANSAS FIRE CHIEFS AND FIREMEN'S ASSOCIATION. Tentative Month of Annual Conventions, at Manhattan, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

Sept. 14-15—IOWA STATE FIREMEN'S ASSOCIATION. 49th Annual Convention, Manning, Ia. Secretary, E. E. Parsons, Marion.

Sept. 27-29—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Jonesboro, Ark. Date of meeting tentative. H. S. Compton, secretary. Central Fire Station, Little Rock, Ark.

Oct. 5-7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual Convention, Philadelphia, Pa. Secretary, Charles F. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS. 54th Annual Convention, Hotel Roosevelt, New Orleans, La. Secretary, Chief James J. Mulcahey, Yonkers, N. Y.

Chief Haire Active in Fighting Fire

Chief Stephen Haire who celebrated his eighty-fifth birthday and who believes that he is the oldest active chief in the fire service, was in charge of fighting a fire in a home in Sparkill, N. Y., which destroyed two interesting relics. Chief Haire, fifty years ago, was a member of the old Flatbush fire department of the Borough of Brooklyn, N. Y.

The fire which destroyed the frame building, damaged beyond repair a family Bible which belonged to Samuel F. B. Morse, inventor of the telegraph, and Noah Webster; it was the intention of the owner to bequeath the Bible to the Western Union Telegraph Company. A chair in which Morse while sitting had the inspiration of the telegraph, was destroyed—all that remained was a few charred cinders.

Vicissitudes of a Village Fire Department

Denuded of its potential tragedy, there are many incidents attending the "rolling" of a village fire department in response to an alarm from the antequated "fire signal" Charley Chaplin could find one of these occasions prolific of antics that would produce hysteric laughter and convulse the most sordid grouch in his audience.

Fire Engineering is often in receipt of descriptions of these incidents happening in a community where parsimony dictates dangerous fire conditions.

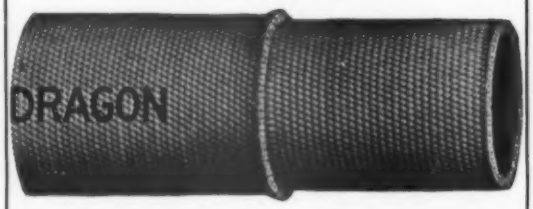
One of the latest letters coming to the publishers is from Chief Frank D. Warner of New Berlin, N. Y. His description of the attempt of his coterie of firemen to reach a burning building, how the old high-wheeled hose reel became stalled in the snow, the futile attempt to attach it to an auto truck, and the catapulting of the fire-fighters into a snowbank, does not require an elastic imagination to unearth humor.

But Chief Warner's purpose is to show the citizens of New Berlin the need of sufficient equipment to enable him to cope with a fire when it comes. His present apparatus is so archaic that the flames burn themselves out before he can reach the scene. He has at least induced them to have a referendum vote on an appropriation of money sufficient to purchase new apparatus. The latest fire caused a loss of $50,000.

Huntington, W. Va., to Have New Fire Station—A site has been selected for the construction of a fire station in Huntington, W. Va.

Fire Hose

to Meet Your
Exact Requirements



High quality and uniformity of construction distinguish

"Dragon" Fire Hose

Made of the finest materials throughout. A seamless rubber lining that resists the effects of age and the heaviest double jacket that is guaranteed to hold the highest working pressures.

Let us bid on your requirements

NEW YORK BELTING & PACKING CO.
New York Boston Chicago Philadelphia
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Do what *This* Chief Did

A well-known Fire Chief of one of our large cities specified Signal Two Collar Shirt, number 25, for his entire department.

With all the men wearing the same style and kind of shirt the department is now absolutely uniform, and the Chief and his men take pride in their appearance.

This Signal Shirt is long-wearing, dressy and practical. The two collars save wear and washing.

Signal Shirt Company
Racine, Wisconsin

Signal

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We specialize in Fire Ladders, Pike Poles, Door Openers and Lock Breakers, Battering Rams, Life Belts, Cellar Pipes, Hose Hoists, Wrenches, Fire Axes and Wall Picks.

Combination Ladder Co., Inc.
381 Fountain Street Providence, R. I.

HAHN

Motor Fire Apparatus

Write for literature and prices on our 250, 350, 500 and 750-gallon triple combinations, chemical and hose combinations and city service trucks.

Hahn Motor Truck Co.,
Hamburg, Pa.

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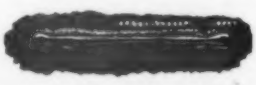

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Triple Combination
Six Cylinder
300 Gallon Pumper, $4500

Also 350—450—500—600—750—1000 gallon capacity six cylinder models. Four wheel or rear wheel drive. Pumpers, Aerials, Tractors, Ladder and Chemical Trucks.

Send for complete information

Kenosha Fire Engine & Truck Co.
Division of Winther Motor Co.
Kenosha, Wis.

Nothing Private About This Page! It's Yours! Help Yourself! Use It!

This page is here to make it convenient for you to get complete specifications and prices from the leading manufacturers of the country of fire protection equipment and supplies of all kinds without cost to you and without any obligation.

To get this information just run down the list below and mail the coupon to us filled out with name and address and with the numbers that indicate the equipment in which you are particularly interested.

We will then notify reliable manufacturers of your interest in such equipment and request that they send you complete information. They will gladly do this and it will be a pleasure for us to help you in this way. So go to it! Help yourself!

Here's Your List of Fire Protection Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Cable & Wire, Fire Alarm.
23 Caps, Firemens.
24 Chains, Non-Skid, Fire Apparatus.
25 Chassis for Fire Apparatus.
26 Chemical Engines and Tanks.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment, Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Fire, Soda & Acid.
35 Extinguishers, Fire, Tetrachloride.
36 Extinguishers, Fire, Foam.
37 Extinguishers, Fire, Powder.
38 Fire Boat Nozzle Equipment.
39 Fire Department Supplies, General.
40 Fire Drills & Organizations.
41 Fire Exit Devices, Door Opening.
42 Fire Alarm Posts.
43 Fire Escapes, Portable.
44 Fire Escapes, Rigid.
45 First Aid Equipment.
46 Flare Lights.
47 Flashlights, Hand.
48 Foam Liquid for Extinguishers.
49 Gas Masks and Respirators.
50 Gas & Smoke Helmets.
51 Gasoline & Oil Handling Equipment.
52 Goggles, Firemen's.
53 Helmets, Metal, etc.
54 Hose Carts, Reels & Racks.
55 Hose Clamps.
56 Hose, Fire.
57 Hose, Chemical.
58 Hose Holders.
59 Hose Jackets.
60 Hose Standardization Tools.
61 Hydrant Draining Pumps.
62 Hydrants, Fire.
63 Jacks for Fire Trucks.
64 Jacks, Shoring & Prying.
65 Ladders, Fire.
66 Lightning Arresters.
67 Motorcycles, Fire Dept. Equipped.
68 Nets, Life.
69 Nozzles, Pipes & Misc. Brass Goods
70 Packings, Pump.
71 Pads, Pole Hole.
72 Paints, Fire Resisting.
73 Priming Ether, Motor.
74 Pumping Cars, Standard.
75 Pumping Cars, Foam.
76 Pumps, Fire Apparatus.
77 Pumps, Fire Service, Stationary.
78 Pumps, Portable, for Fire Protection.
79 Record Books, Fire.
80 Relief Valves.
81 Reviving Apparatus, Oxygen.
82 Rubber Clothing.
83 Searchlights.
84 Shingles, Fire Retardant.
85 Shirts, Firemen's Special.
86 Sirens, Apparatus & Chiefs Cars.
87 Sliding Poles.
88 Soda & Acid Chemicals.
89 Spark Plugs, Fire Apparatus & Motorcycles.
90 Squad and other Auxiliary Cars.
91 Sprinkler Head Shut-Offs.
92 Sprinkler Supervisory Service.
93 Sprinkler Systems, Automatic, Foam.
94 Sprinkler Systems, Automatic Water.
95 Starters, Fire Apparatus, Automatic, Air.
96 Steam Fire Engines.
97 Tarpaulins & Fire Blankets.
98 Tetrachloride Chemicals.
99 Thawing Equipment, Hydrant.
100 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
101 Tractors.
102 Traffic Clearing, Systems.
103 Triple Combination Pumping Cars.
104 Uniforms.
105 Water Towers.
106 Wheels, Cushion.
107 Whistles, Fire Alarm, Compressed Air.
108 Whistles, Fire Alarm, Steam.
109 Whistles, Fire Apparatus.
110 Wrecking Trucks.

- —TEAR OFF HERE— - - - - - - - - - - - - - - - -

FIRE ENGINEERING

225 West 34th St., New York City.

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Date .....

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Position .....

Street .....

City and State .....

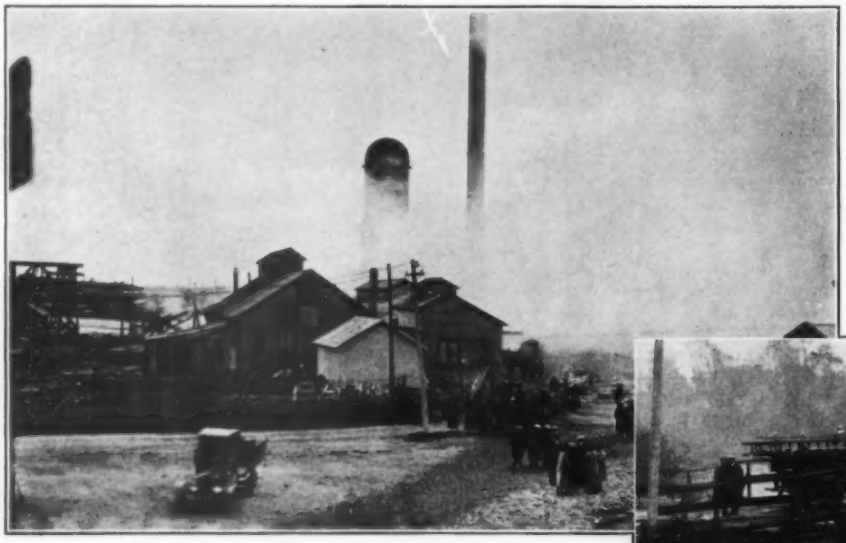
Nos. .....

Nos. .....

Nos. .....

For Information on Any Equipment Not Listed Above, Write on Margin of This Page or Use Separate Sheet.

Jan. 10, 1926



Government Sawmill Burning at Neopit, Wis., while NORTHERN Pumper Saved the Surrounding Indian Village.

This fire truck equipped with a NORTHERN Pump Raced 39 Miles from Clintonville and pumped 17 hours continuously through 2200 feet of hose.

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Where men have apparatus which they know will deliver uninterrupted maximum service for any required time their work shows a decided improvement—it gives them confidence.

Firemen equipped with apparatus using the Northern Pump know from long experience that their work will be backed by 100% performance of their pumper, a full volume of water with no drop in the pressure, no matter how long it is required.

The NORTHERN Pump has proved right in principle — it has been refined to the point where it is rapidly becoming accepted as the most reliable, most effective fire pump on the market today. If you would like to see our bulletins, write.

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902 18th Avenue, N. E.
Minneapolis, Minn.

ROTARY NORTHERN PUMPS

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When Ordering New Equipment

Patronize the Manufacturers You Find Listed Above

They are leaders in their respective lines and are in position to take the best possible care of your requirements.

The fact that they are using advertising space in FIRE ENGINEERING indicates they want your inquiries and will be glad to submit specifications and prices without placing you under any obligation whatever.

They are ready and anxious to serve you courteously in every way possible. Be sure to write them for complete information when considering new purchases—and place your orders with them.

They are helping us make the paper better by their advertising. You can help them and help us and help yourself by giving them your business. Let's all pull together! All will benefit.

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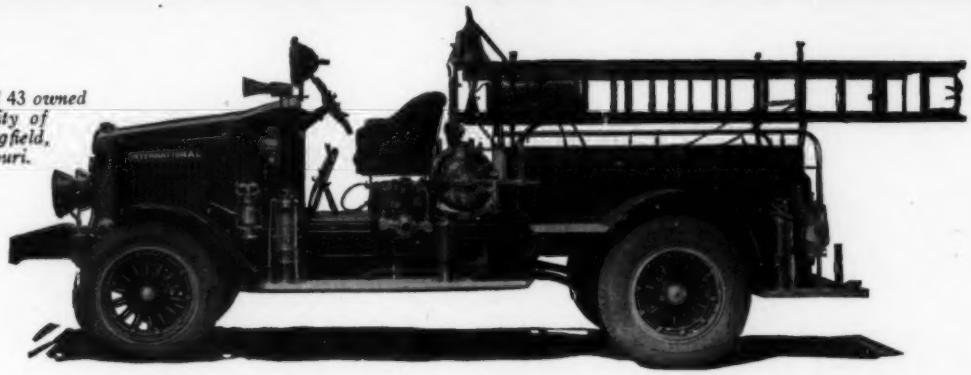

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International Fire Trucks make a good impression when they race down the streets of your city. They are pleasing in design, sufficiently fast, and are extremely dependable and economical. They carry their fire-fighting equipment ably and do their duty instantly when called upon.

The purchase of a fire truck represents a serious investment—in a great many of the smaller municipalities, in fact, the heaviest investment made for a single piece of equipment. And that purchase deserves great consideration. It's not enough to lift the hood and like the color. You expect a fire truck to render a lot of service and last a long time. You should expect as much of its maker. You can be sure of the truck you buy if you are sure of its maker. International Trucks have been made for twenty years by a company whose manufacturing experience goes back almost a hundred.

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The International Model SL (chassis shown below) is particularly well suited to fire truck requirements. It is a long, low, underslung truck—fast, yet of rugged construction.

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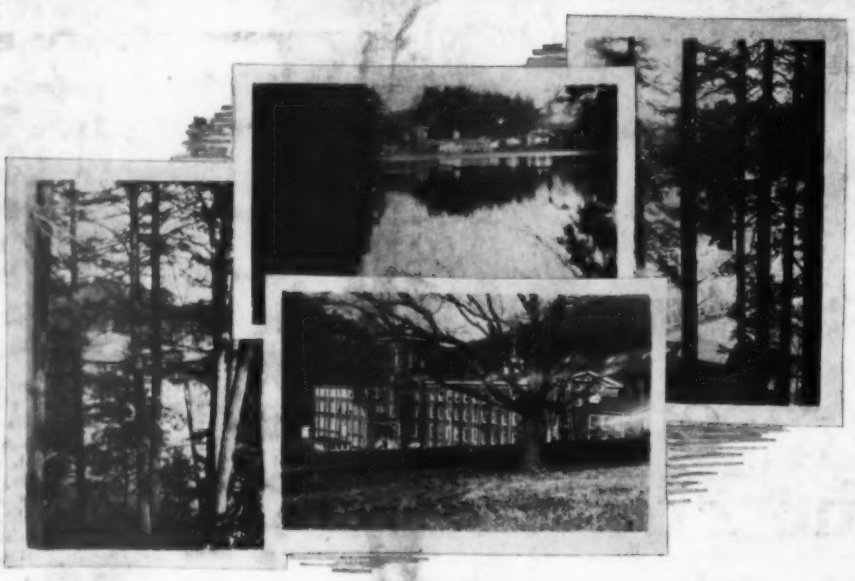

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